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Crude Oil Price Increases Will Be Announced Throughout Country Within Two Weeks

By ANDREW M. ROWLEY

PRICE increases for crude oil and probably for gasoline will be made effective within the next two weeks throughout the United States. Just what the base price for 36 gravity crude in the Mid-Continent will be is not known although it is believed in well informed quarters this price will be approximately $1.00 a barrel which would mean a base price for middle octane number gasoline (Group 3) of 5.4 cents a gallon.

The gasoline market in the Mid-Continent area is showing considerable strength due to the expectation the code for the industry, signed last Saturday night by President Roosevelt, will result in an upward swing in the price schedules. This code becomes effective September 2 although it is probable the base prices will be announced prior to that date.

Of the utmost importance to the entire industry at this time and to the success of the code is strict curtailment of crude oil production in the different flush areas. Base prices, whether set by Presidential proclamation or otherwise, cannot stand and continue for any length of time if there is a large overproduction such as exists at this time. Crude oil production throughout the country must be curtailed about 500,000 barrels daily to insure stability.

The big job of the Planning and Co-ordinating Committee of 15 to be appointed by President Roosevelt will be to allocate production quotas to the different states and then urge that the full strength of the Administration be utilized to see that these quotas are not exceeded. Observers in the East Texas Field seem more hopeful that operators there, who have consistently opposed limiting production to figures set by the Texas Railroad Commission, will now be forced to curtail their output to allowables.

Co-operation by state authorities is absolutely necessary in the matter of curtailing production and the entire industry is watching the Texas Railroad Commission to see what action that body takes towards bringing production of the State of Texas down to a reasonable figure. It is conceded by all fair minded oil men the production of Texas is entirely too high, based on the requirements of the country as a whole.

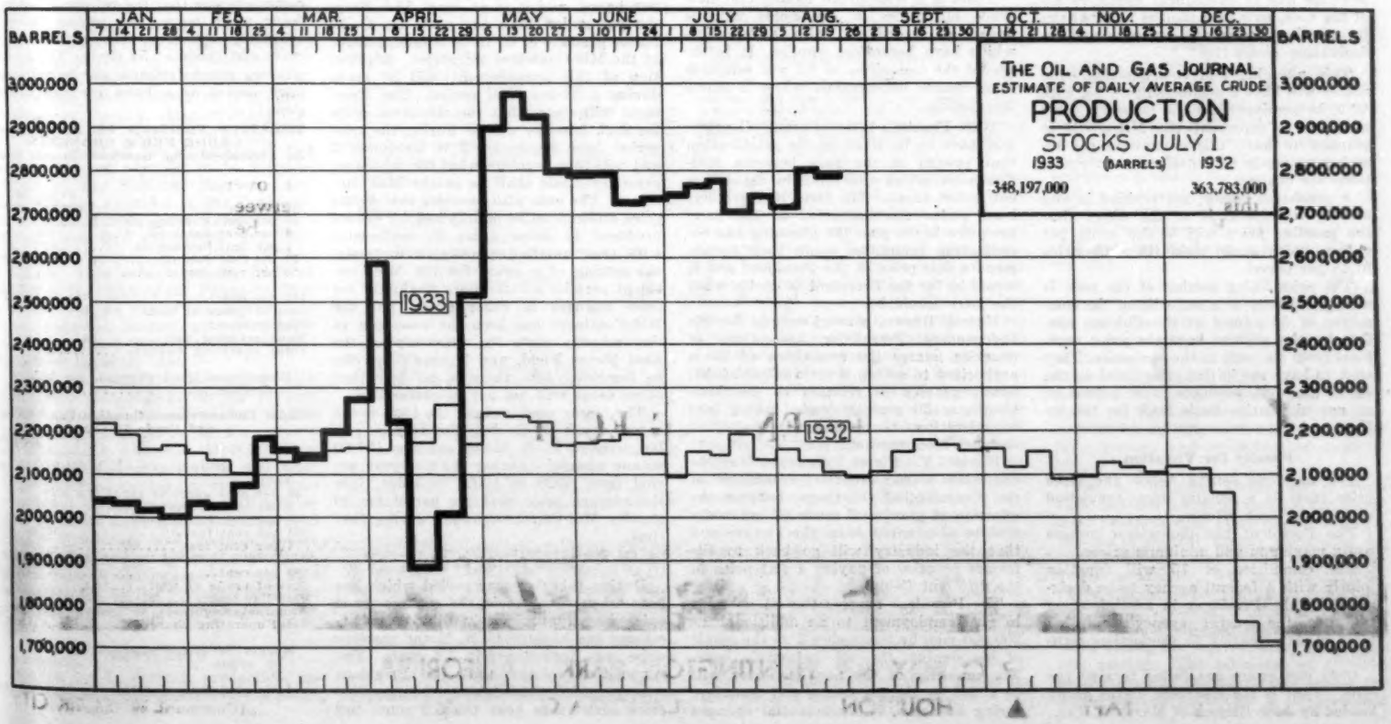
Complete and unselfish co-operation by every element in the petroleum industry in carrying out the provisions of the code and in preventing violations of its regulations will start the industry very quickly along the road to profitable operations in all branches.

Crude Oil Production in the United States

Estimated daily average production for the week ending August 19, and a comparison with previous week and one year ago, follows:

	Aug. 19	Aug. 12	Aug. 20, 1932
Oklahoma—			
Oklahoma City	270,580	324,770	65,840
Seminole-St. Louis	137,440	123,320	117,895
Remainder of State	212,795	216,515	206,530
Total Oklahoma	620,815	664,605	390,265
East Texas—			
Lathrop	265,083	246,141	125,432
Kilgore	192,673	178,906	98,879
Joiner	171,894	159,613	104,487
Total East Texas	629,650	584,660	328,798
West Texas	161,455	168,789	172,561
North Central Texas	74,268	74,310	74,416
Texas Panhandle	49,303	48,795	53,173
East Central Texas	59,201	58,635	56,265
Gulf Coast—Texas	208,410	214,185	114,648
Southwest Texas	52,812	52,590	58,195
Total State of Texas	1,235,099	1,201,964	858,056
Kansas	129,110	130,100	93,215
North Louisiana	26,210	25,325	29,025
Gulf Coast—Louisiana	46,583	45,990	31,512
Arkansas	31,430	31,345	34,210
Eastern Fields	117,000	119,000	114,000
Rocky Mountain area	79,980	75,300	75,776
California—			
Santa Fe Springs	54,250	54,500	58,000
Long Beach	75,750	74,500	70,000
Playa Del Rey	11,000	11,000	14,750
Elwood	12,750	13,750	13,750
Kettleman Hills	61,500	62,500	60,250
Remainder of State	290,250	291,750	258,250
Total California	505,500	508,000	475,000
Total United States	2,791,727	2,801,629	2,101,059

Decrease 9,902 Bbls. Daily



Oil Code Signed by President to Be Revised Before It Is Put Into Effect September 2

By CHARLES E. KERN
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Aug. 21.—A new petroleum code has been approved by President Roosevelt and will go into effect September 2. As the President explained in his accompanying letter to National Recovery Administrator Hugh S. Johnson, he will consider amendments to the code and make some changes. The changes to be made by the President will be effective prior to the effective date of the code.

The letter addressed by President Roosevelt to General Johnson follows:

"In submitting this proposed petroluem code to me, one substantial group within the industry has also submitted some proposed amendments, agreeing, however, to abide by my decision as to their acceptance. You have advised me that there are some other provisions of the code which require further consideration.

"The code, as agreed to by all its proponents, provides for a representative planning and co-ordinating committee of the industry. In view of the fact that we shall thus soon have a self-governing industry under federal supervision it has seemed advisable to me to approve the code exactly as submitted in the usual manner and then to call for the advice of the planning and co-ordinating committee to the end that, prior to the effective date of the code, I may make a decision on these questions and on the provisions which you feel should be further considered.

"In accordance with Article VII, Section 2, will you please request each of the various groups who have participated in hearings and in subsequent consideration of the code, now to make the nominations for membership on the planning and co-ordinating committee?"

This planning and co-ordinating committee will have a membership of 15, with 12 to be nominated by the industry, three members to represent the NRA. It is planned to have this committee get together promptly to consider recommendations for changes.

A persistent rumor, not verified in any official statement, is to the effect that the gasoline price will be 5.9 cents per gallon, which would make the crude price $1.11 per barrel.

The price-fixing section of the code is not satisfactory to a majority of the committee of 54 named at the Chicago conference who wish to have the price regulated from the well to the consumer. They wish to have the initial price fixed on the oil at the well, products to be priced on an agreed relative basis both for the refiner and the service station operator.

Penalty for Violation

For any one selling below the fixed price there is a penalty upon conviction of $500 for each offense.

The President has the widest powers to fix maximum and minimum prices.

The committee of 15 will function jointly with a federal agency to be designated by the President in administering the code, the federal agency confining most of its attention to production regulation.

Only one group has failed to sign the code. That is the insurgent Texas group headed by Jack Blalock of Marshall, Tex., which opposes the provisions restricting and allocating production of crude. This group contends that such regulation and allocation is a state function and has shown no disposition to abandon their ground.

H. F. Sinclair's Statement

Harry F. Sinclair, chairman of the board of the Consolidated Oil Corp., in a formal statement said:

"General Johnson has had an almost impossible task in his attempt to reconcile the conflicting opinions as to what the oil code should be. I think he has done all that is humanly possible in this direction, and now that we are on the eve of receiving the code I want to say that whatever the rules of the game may be, as approved and promulgated by the President, I shall accept them and do my utmost to put them into successful operation.

"The most representative body of the oil industry, the committee of 54, of which I am a member, did not approve in all particulars of the code submitted to us, but one of the last actions of the committee today was a unanimous declaration that despite objections the code approved by the President would be loyally accepted. In this declaration I heartily concur, and I think it extremely important, in view of objections the code has encountered in other quarters, that the position of the committee of 54 should be understood. One of the main reasons for its acceptance of the code was the faith we have that its defects would be cured and its terms varied by the administration as might be necessary to enable the industry to carry on the recovery act."

Mr. Farish's Views

In a letter to General Johnson announcing acceptance of the code, W. S. Farish, chairman of the board, Standard Oil Company of New Jersey, set forth his group's reservations and promised the group would "do everything in our power to make it a success."

"Our group represents a majority in investment and in number of employes within the industry," Farish said, "and

(Continued on Page 31)

Differentials in Oil Prices Previously Existing Expected to Continue Under New Code

By W. T. ZIEGENHAIN

It is believed one of the first problems to be considered by the planning and coordinating committee of 15 to be appointed by the President will be that of fixing crude oil prices in the different fields and areas. Just what basis will be used is not clear to the industry. Areas intensely interested in this question include the Rocky Mountain states, California, West Texas and various fields in the Gulf Coast and Southwest Texas. In addition the Eastern and Central West fields operators believe crude prices in those areas must take into consideration the lubricating qualities of the crude instead of being based on any gravity proposition.

There is a widespread feeling that new crude oil prices in the fields will be based in accordance with differentials which have heretofore applied. It is expected the committee of 15 will establish these actual differentials when it starts functioning.

Wirt Franklin believes crude oil prices will have to be fixed in the relationship that existed in the past between Mid-Continent prices and those in the different other areas. He feels if there has been undue discrimination in the market price in the past the planning and coordinating committee could then recommend a fair price to the President and it would be for the President to decide what the price would be.

Russell Brown, general counsel for the Independent Petroleum Association of America, states the committee of 15 is authorized to set up a ratio of oil of different gravity in relation to the Mid-Continent 36 gravity crude, taking into consideration its market value and its distance from market.

Daniel T. Pierce, assistant to the chairman of the executive committee of the Consolidated Oil Corp., believes the question of gravity of crude oil gradually will be eliminated from the picture and that the industry will go back to the former practice of paying a flat price in the different fields.

The President expects the oil industry to give employment to an additional 1,200,000 men by September 2 as the result of his signing the oil industry's code. The majority of the new employes will be added by the marketing and manufacturing branches, but substantial changes will be made in the hours and number employed in the producing and pipe line branches and general offices.

It is impossible for the industry to make definite commitments on the number of new men it will employ in each branch until it learns what compensating increase in pay it will receive for its products. The code attempts to provide adequately for this also, but is outlined in less definite terms than the matter of working hours and pay. During the period from now until September 2 this will be further clarified.

The code specifies that 36-36.9 gravity Mid-Continent crude must sell at a price per barrel which is at least 18.5 times the per gallon tank car price for U. S. Motor gasoline of 60 to 64 octane number at the Mid-Continent refineries. Application of this arrangement will be made during a 90-day trial period. The President will state what the minimum price for such gasoline will be during the trial period from September 2 to December 2 and will thus regulate what the minimum price for crude shall be in the Mid-Continent. The code also provides that a fair price differential be maintained for crudes produced in other areas in conformity with their relative qualities. Obviously, the setting of a price for the Mid-Continent permits a little more flexibility for price changes in other areas, but the Mid-Continent has been the sore spot in the industry since the discovery of the East Texas Field, and if conditions can be improved here there is no fear that other areas will not act in conformity.

The factor used, namely the 18.5, is the actual result of dividing the average gallon price of U. S. Motor gasoline (57-60 octane number) during the five-year period from 1928 to 1932, inclusive, into the average price paid per barrel for 36 gravity Mid-Continent crude during that time.

Hope for $1 Crude

During this five-year period which has been taken as the basis, the average crude price was approximately $1.08 per barrel and the average U. S. Motor gasoline price was approximately 5.8 cents. The supposition follows that the President will consider establishing the gasoline price somewhere near the 5.8 cents per gallon in the 90-day trial period. This has led to the general prediction that crude would be posted at $1 in the Mid-Continent.

At the present time the gasoline price in the Mid-Continent for that grade is 4 cents at the larger plants. When this figure is multiplied by 18.5 it is seen that the crude price should be 74 cents a barrel at present to conform to the code. The crude price now is 54 cents in Oklahoma and Kansas and 44 cents in North Texas.

However, if an estimate of earnings at the refinery is made, using typical yields, minimum operating expenses, etc., it becomes obvious that the refiner is not now doing much more than paying the bare operating expenses with gasoline at 4 cents and crude at 54 cents. The accompanying simple revenue per barrel statement serves as a basis for this conclusion.

RELATIVE POSITION OF REFINER AS CRUDE PRICE CHANGES

At Present—4-cent Gasoline—54-cent Crude

Yield—	Price per gal.	Revenue for bbl. of crude
55 per cent gasoline (60 O. N.)	$.04	$.92
6 per cent kerosene	.025	.06
4 per cent furnace oil	.02	.02
31 per cent fuel oil	.40 bbl.	.12
4 per cent loss	--	--
100 per cent		$1.12
Cost of crude at well	$.54	
Pipe line cost	.15	
Manufacturing cost	.28	
Total operating charges		$.97
Margin for fixed charges, per bbl. of crude		$.15

Under Code—Present Gasoline Price 4 Cents and Crude 74 Cents

Yield—	Price per gal.	Revenue for bbl. of crude
55 per cent gasoline (60 O. N.)	$.04	$.92
6 per cent kerosene	.025	.06
4 per cent furnace oil	.02	.02
31 per cent fuel oil	.40 bbl.	.12
4 per cent loss	--	--
100 per cent		$1.12
Cost of crude at well	$.74	
Pipe line cost	.15	
Manufacturing cost	.31	
Total operating charges		$1.20
Margin for fixed charges per bbl. of crude		(Loss) $.08

It is also seen, that on the basis of the

(Continued on Page 30)

Complete Text of Code for Petroleum Industry As It Was Signed by President Roosevelt

The full text of the oil industry code signed by President Roosevelt August 19, which goes into effect September 2, follows:

PREAMBLE

To meet the emergency in the petroleum industry; to increase employment, establish fair and adequate wages, enlarge the purchasing power of persons related to this industry and improve standards of labor; to conserve the nation's petroleum resources and to prevent physical and economic wastes which demoralize the national market to the detriment of consumers and producers and to restrain and avoid recurring abuses in the production, transportation and marketing of petroleum and its products which directly obstruct the free flow of interstate and foreign commerce by causing abnormal and disturbing temporary fluctuations in the supply of petroleum or its products that are not responsive to actual demand and prices and disrupt the normal flow of interstate commerce in petroleum and its products; and to prevent the growth of monopoly resulting from unfair competitive practices; and to protect the nation from an unnecessarily wasteful depletion of this natural resource essential for the national defense and safety and the continued functioning of the nation's transportation facilities that are dependent for operation on an adequate and economic supply of petroleum and its products and to accomplish and effectuate the policies set forth in the National Industrial Recovery Act, this code of fair competition governing the petroleum industry is adopted.

ARTICLE 1
General

Section 1. The provisions of this code shall become effective two weeks after approval thereof by the President.

Sec. 2. The term American petroleum industry includes the production, transportation, refining, and marketing of crude petroleum and its products; and is inclusive likewise of natural gasoline and the production of natural gas in conjunction with petroleum. The term "person" shall include natural persons, partnerships, associations, trusts, including trustees in bankruptcy and receivers, and corporations. The word "President" shall mean either the President or any agent, employe, or agency empowered by the President to act in his stead.

Sec. 3. Such of the provisions of this code as are not required to be included therein by the National Recovery Act, may, with the approval of the President, be modified or eliminated as changes in circumstances and experience may indicate.

Sec. 4. This code is hereby declared subject to the right of the President from time to time to cancel or modify any order, approval, license, rule or regulation issued under Title 1 of the National Industrial Recovery Act.

Sec. 5. Agreements between competitors within the industry for the purpose of accomplishing the objectives of this code, or any of them, or for the purpose of eliminating wasteful duplication of manufacturing, transportation and marketing facilities are hereby expressly permitted, but such agreements shall not become operative until specifically approved by the President, and suitable public notice shall have been given of such agreements. Such agreements may at any time be disapproved by the President and upon such disapproval they shall cease to be valid.

ARTICLE 2

Section 1. In drilling, production, refinery and pipe line operations, the maximum hours for clerical employes shall not exceed 40 per week and the rate of pay for each geographic division shall not be less than the minimum stated in Section 2. All other employes in these operations, except executives, supervisors and their immediate staffs and pumpers on "stripper" wells located so as to make relief impracticable, shall work not more than 72 hours in any 14 consecutive days, but not more than 16 hours in any two days.

To establish geographic divisions for the petroleum industry, the geographic divisions as shown by the United States Department of Labor, Bureau of Labor Statistics wage reports (October, 1929) have been adopted. The minimum hourly rates for the employes above specified, other than clerical, in each of these geographic divisions shall be as follows:

	Minimum rate per hour (cents)
Middle Atlantic division:	
New York, New Jersey, Pennsylvania	52
New England:	
Maine, New Hampshire, Vermont, Rhode Island, Massachusetts, Connecticut	52
East North Central:	
Ohio, Indiana, Illinois, Michigan, Wisconsin	52
West North Central:	
Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas	48
South Atlantic:	
Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina,* South Carolina,* Georgia,* Florida*.	45
East South Central:	
Kentucky, Tennessee, Alabama,* Mississippi*	45
West South Central:	
Arkansas,* Louisiana,* Oklahoma, Texas*	48
Mountain:	
Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Nevada, Utah	50
Pacific:	
Washington, Oregon, California	52

*For refinery and pipe line work in states so marked, not more than 10 per cent, constituting common labor only, of the total number of employes in any plant or operation may be paid at not less than 80 per cent of this minimum rate.

Sec. 2. In market operations all employes (other than those employed in filling or service stations, garages or other institutions which sell gasoline to the public), including clerical, but excluding executives, supervisors and their immediate staffs, and outside salesmen shall work not more than 40 hours per week. The minimum rates for such employes in each of the geographic divisions above specified shall be as follows:

	Minimum rate per hour (cents)
Middle Atlantic division:	
New York, New Jersey, Pennsylvania	47
New England:	
Maine, New Hampshire, Vermont, Rhode Island, Massachusetts, Connecticut	47
East North Central:	
Ohio, Indiana, Michigan, Wisconsin, Illinois	47
West North Central:	
Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas	42
South Atlantic:	
Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina,* South Carolina,* Georgia,* Florida*	40
East South Central:	
Kentucky, Tennessee, Alabama,* Mississippi*	40
West South Central:	
Arkansas,* Louisiana,* Oklahoma, Texas*	40
Mountain:	
Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Nevada, Utah	45
Pacific:	
Washington, Oregon, California	47

*For market operations in states so marked, not more than 10 per cent, constituting common labor only, of the total number of employes in any plant or operation may be paid at not less than 80 per cent of this minimum rate.

Sec. 3. No filling or service station employe, nor any employe of any garage or other institution selling gasoline to the public shall work more than 48 hours per week. Nor shall any such employe receive less than $15 per week in any city of over 500,000 population or in the immediate trade area of such city; nor less than $14.50 per week in any city between 250,000 and 500,000 population, or in the immediate trade area of such city; nor less than $14 per week in any city of between 2,500 and 250,000 population, or in the immediate trade area of such city; and in towns of less than 2,500 population such employes shall receive wage increases of not less than 20 per cent, provided that this shall not require wages in excess of $12 per week, and provided further that no employe shall receive a smaller weekly wage for the shorter work week than was his weekly wage on July 20, 1933.

Sec. 4. It is the purpose of the labor provisions of this code that all employes engaged in similar work in each of the geographic divisions shall be placed on the same basis of hours and receive at least the minimum earnings provided for each class of work in the industry.

To effectuate this purpose, the differentials between the rates for skilled jobs and the minimums established in this code for common labor will not be less than those existing in the industry in each geographic area on July 1, 1929; but in no case will such differential for first grade refinery stillmen be less than 45 cents per hour or for rotary driller less than 75 cents per hour.

Sec. 5. Every person subject to this code shall insert a provision in all contracts made by him for work within the industry, whereby the contractor agrees that his employes, or those of any subcontractor, shall receive the rates designated by this code for each respective class of work and shall not work in excess of the schedule of hours in this code.

Sec. 6. On and after the effective date of this code the employer in the petroleum industry shall not employ any minor under the age of 16 years.

Sec. 7. Employes in this industry shall have the right to organize and bargain collectively through representatives of their own choosing, and shall be free from interference, restraint, or coercion by employers of labor, or their agents, in the designation of such representatives or in self-organization, or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection. No employe in this industry, and no one seeking employment therein, shall be required as a condition of employment to join any company union or to refrain from joining a labor organization of his own choosing. Employers of labor in this industry shall comply with the maximum hours of labor, minimum rates of pay, and other conditions of employment approved or prescribed by the President.

Sec. 8. The provisions of this code regulating hours of labor and wages of employes, shall be deemed violated by any device or method by which employes, as recognized in the industry on July 1, 1933, are or are attempted to be removed from such present recognized status of employes by means of drilling contracts, commission contracts, lease and agency, or any other agreement.

ARTICLE 3
Production

Section 1. The President is hereby requested, after such investigation and hearing as is prescribed by, and subject to the limitations contained in, Title 1 of the National Industrial Recovery Act, to limit imports of crude petroleum and petroleum products for domestic consumption to volumes bearing such ratio to the estimated volume of domestic production as will effectuate the purposes of this code and the National Industrial Recovery Act.

Sec. 2. Withdrawals of crude oil from storage shall be subject to approval by the planning and co-ordination committee but for the remainder of 1933 shall be limited in the aggregate to an average not in excess of 100,000 barrels daily. Additions to storage beyond the necessary limits of fluctuations in working stocks shall be made only with the approval of the planning and co-ordinating committee.

Sec. 3. Required production of crude oil to balance consumer demand for petroleum products shall be estimated at intervals by a federal agency designated by the President. In estimating such required production, due account shall be taken of probable withdrawals from storage and of anticipated imports. The required production shall be equitably allocated among the several states by the federal agency. The estimates of required production and the allocations among the states shall be submitted to the president

Complete Code Published for First Time

The accompanying official code for the petroleum industry, published in full for the first time in any publication, was signed last Saturday night, August 19th, by President Roosevelt. This code differs in many important particulars from the revised code presented for consideration on August 17th, which code was published by several newspapers and one trade publication. The code as signed by President Roosevelt is the fourth code prepared and considered. The first was the one prepared at the Chicago conferences. The second was the one prepared by General Johnson and his staff and presented to representatives of the industry at the Washington conferences (published in The Oil and Gas Journal of August 3rd). The third was the revised code considered at Washington from August 17th until it was changed in many particulars and in its changed form signed by President Roosevelt Saturday night, August 19th. It is the code signed by the President which is published herewith.

for approval, and, when approved by him, shall be deemed to be the net reasonable market demand, and may be so certified by the federal agency. The allocations when approved by the President shall be recommended as the operating schedules for the producing states and for the industry in any states where oil is produced on account of back allowables, total current allowables shall be reduced accordingly.

Sec. 4. The subdivision into pool and/or lease and/or well quotas of the production allocated to each state is to be made within the state. Should such quotas allocated in conformity with the provisions of this section not be made within the state or if the production of petroleum within any state exceeds the quota allocated to said state, the President may regulate the shipment of petroleum or petroleum products in or affecting interstate commerce out of said state to the extent necessary to effectuate the purposes of the National Industrial Recovery Act and/or he may compile such quotas, and recommend them to the state regulatory body in such state in which event it is hereby agreed that such quotas shall become operating schedules for that state.

If any subdivision into quotas of production allocated to any state shall be made within a state any production by any person, as person is defined in Article 1, Section 3 of this code, in excess of any such quota assigned to him shall be deemed an unfair trade practice and in violation of this code.

Sec. 5. In any state in which no regulatory body or officer charged with the duty of allocating quotas within said state exists, and under the laws of which any person in any trade or industry within said state is required to comply with the terms of any code of fair competition for such trade or undustry approved under Title 1 of the National Industrial Recovery Act, the President may designate an agency within such state to compile quotas within said state. Such compilations, upon approval by the President shall become operating schedules for the petroleum industry within said state. If any subdivision into quotas of production allocated to any such state shall be made within the state, any production by any person, as person is defined in Article 1, Section 3 of this code in excess of any such quota assigned to him shall be deemed an unfair trade practice and in violation of this code; and, further, persons engaged in the petroleum industry or any branch thereof in any state may adopt a supplemental code for that state to become effective when approved by the President, covering any matter relating to the petroleum industry not in conflict with the provisions of this code.

Sec. 6. During such periods as the production of crude petroleum in any state is within the allocation to that state, as provided in Section 3, Article 3, of this code, it shall be an unfair practice within that state to buy, sell, receive in exchange, or otherwise acquire Mid-Continent crude petroleum of 36°-36.9° A.P.I. gravity during any calendar month at a price per barrel (to the nearest cent) less than that which will be determined by multiplying the average Group 3 tank car price per gallon of U. S. Motor gasoline of 60-64 octane rating during the preceding calendar month as ascertained and declared by the Federal agency designated by the President, by the constant 18.5. The constant 18.5 represents the relationship, during the period 1928-1932, between the average price per barrel of Mid-Continent crude petroleum of 36°-39.9° A.P.I. gravity and the average Group 3 price per gallon of U. S. Motor Gasoline of 57-65 octane rating or 58-60 U. S. Motor gasoline. For crude petroleum of lower or higher gravity and/or different quality and/or in different locality, fair and equitable differentials between the price of 36°-36.9° Mid-Continent crude petroleum, determined as above prescribed, and the prices quoted for other crude petroleums shall be observed. Each company or individual purchasing crude petroleum shall file a certified copy of its price schedule and subsequent price changes with the planning and co-ordinating committee. Such contracts for the purchase of crude oil as were in existence on the effective date of this code shall not be affected by the provisions of this section during the period of the contract, provided that a certified copy of each such contract is filed with the planning and co-ordination committee within thirty (30) days of the effective date of this code. Such contracts, however, may not be renewed except with the approval of the planning and co-ordination committee.

Sec. 6. (a) For a test period of not to exceed 90 days, the President may prescribe the base price of the gasoline described in Section 6 of this article to which said constant shall be applied and, at the end of said period, the President may revise the formula set forth in said Section 6 or add such additional formulas relative to the wholesaling and retailing of petroleum and its products in such manner as in his opinion may be necessary to effectuate the purpose of the National Industrial Recovery Act. If and whenever the President shall prescribe a base price for gasoline then it shall be an unfair trade practice to buy, sell, give or receive in exchange or otherwise dispose of or acquire such gasoline at a lower price.

Sec. 7. Wildcatting shall not be prohibited because the future maintenance of the petroleum supply depends on new discoveries and new pools, but the shipment of petroleum or the products thereof in or affecting interstate commerce which was produced in a new field or pool which is not developed in accordance with a plan approved by the President is unfair competition and in violation of this code. For the purpose of this code a new field or pool is one discovered after date of approval of this code and in which 10 producing wells have been completed.

ARTICLE 4

Refining

Section 1. To achieve greater accuracy in balancing production and consumption, to prevent the injurious effect upon interstate commerce of an unbalanced accumulation of gasoline inventories in any part of the country, and to facilitate equitable access of refiners to the allowable supply of crude oil, the Federal agency designated by the President shall divide the country into eight refining districts and shall suggest a proper relationship between inventories of gasoline and sales thereof for each district.

Sec. 2. The planning and co-ordination committee shall appoint subcommittees for each refining district. Said subcommittee shall call the attention of refiners within their respective districts to the existing and recommended ratios between gasoline inventories and sales within said districts. If any refinery claims that inequities exist in the availability of supplies of crude oil, it shall make complaint to the subcommittee for the district within which it is situated. Said district subcommittee shall endeavor to adjust such controversy; if it cannot do so, it shall refer such complaint to the adjustment committee of the planning and co-ordination committee. The adjustment committee, after proper statistical study of the ratio beween claimant's inventory and sales, and upon recommendation of the planning and co-ordination committee, shall hold public hearings, upon due notice, with a view to arbitration.

Sec. 3. Should any refiner have an inadequate supply of crude oil available from current purchases, within economic transportation limits then he may withdraw or purchase from storage such oil as may be necessary to make up the deficiency. In such cases a special report shall be made by such refiner to the subcommittee, which may prohibit further withdrawals by providing the deficiency from current sources at competitive prices. In the event of such purchase from storage then it shall not be an unfair trade practice for the owner of storage oil to make such sale.

Sec. 4. The storage of gasoline in amounts greater than is required to provide for the necessary fluctuations in working stocks and to meet the variation resulting from seasonal demand as determined by the planning and co-ordination committee, is an unfair trade practice and is prohibited.

ARTICLE 5

Marketing

Rule 1. The provisions of this code relating to transactions of refiners, distributors, jobbers, or wholesalers with retailers and others selling or consigning petroleum products to consumers shall apply to all accounts, of any description under which refiners, distributors, jobbers, or wholesalers sell their products or cause their products to be sold to consumers or to retailers, or to others selling petroleum products to consumers.

Rule 2. Whenever any merchant or vendor of any and all types of merchandise offers for sale at wholesale or retail motor fuels, motor lubricants, motor gasoline or naphtha of a petroleum nature he shall, in so far as his business pertains to these products, be bound by the regulations of this code.

Rule 3. All refiners, distributors, jobbers, and wholesalers shall conspicuously post at each point from which they make deliveries, and at places there readily accessible during business hours to the public, all prices for which naphtha, gasoline, motor fuel, lubricating oil, grease, kerosene, and heating oils are sold.

With the exception of sales made directly by refiners, all such prices shall remain in effect for at least twenty-four (24) hours after they become effective. Refiners must post for twenty-four (24) hours the prices for all sales made the previous day. The posting shall include the following: The prices for all classes, types, methods and quantities of deliveries, except those under previously executed contracts, being made from the place where the price is posted, a schedule of all discounts offered and the terms thereof and a statement of all terms as to freight rates and deliveries. If different prices are offered to different classes of buyers, such prices shall be separately posted. The posted prices shall include, among others, the prices for spot sales. When prices are posted for deliveries in tank wagons or tank trucks, the posting shall describe the area to which the prices apply. All sales shall be made at the posted prices applicable thereto and no departure shall be made from the prices, schedule, or discounts or from the terms posted applicable to any such sale.

All retailers, and others who sell consumers, shall conspicuously post at the place from which delivery is made, and at places there readily accessible during business hours to the public, one price at which each brand, grade, or quality of naphtha, gasoline, motor fuel, lubricating oil, grease, kerosene, and heating oil are sold. All retailers, and others who sell consumers, unless prevented therefrom by applicable law, shall separately post in the same manner all tax they are required to pay or collect because of the sale of naphtha, gasoline, motor fuel, lubricating oil, grease, kerosene, or heating oil. All prices posted shall remain in effect for at least twenty-four (24) hours after they are posted.

All sales shall be made at the posted prices applicable to the brand, grade, or quality of the commodity sold.

Coupon books or other scrip of any nature, if used, shall be sold and redeemed at their face value without any discount.

No one shall make any deviation from his posted price by means of rebates, allowances, concessions, benefits, scrip books or any other device whereby any buyer obtains any naphtha, gasoline, motor fuel, lubricating oil, grease, kerosene or heating oil at a net lower cost than the applicable posted price; except that commercial consumers may secure gasoline, motor fuel and other oils on contract quantity basis under conditions established by the planning and co-ordination committee.

The provision of all previously executed then existing contracts regarding price will be available for inspection upon the direct request of any competitor, unless such request shall be made for the purpose of unfairly obtaining information in which event the decision whether such contract shall be available shall be made by the authority, committee or commission provided in Rule 4 of this article, or such agency as it may designate.

On a change in the posted price no adjustments, allowances, credits, or refunds shall be given to any buyer on deliveries already made.

Abnormal deliveries in anticipation of price advance and acceptance of orders for subsequent deliveries at prices effective before advances, are prohibited.

Rule 4. Refiners, distributors, jobbers, wholesalers, retailers and others engaged in the sale of petroleum shall not sell any such refined petroleum products below cost of manufacturing or importation into the state where offered for sale, plus reasonable expense in the cost of marketing as observed under prudent management, fixed taxes and inspection fees by the Federal or state government, or any political subdivision thereof, provided, however, that any person is permitted to meet competition in violation of this rule concerning which he has made complaint to the planning and co-ordination committee, or any authorized agency thereof, but only pending action thereon.

Any authority, committee or commission delegated by the National Recovery Administration for such purposes shall receive complaints of violation of this rule and make such investigation and/or hold such hearings as it deems necessary to determine whether the prices complained of are in violation of this rule.

Rule 5. The schedule of credit attached hereto, marked appendix "B," is hereby adopted by the petroleum industry as a uniform basis of credit to be applicable to all deliveries made after the effective date of this code. The granting of a longer term of credit or a larger rate of discount by any refiner, distributor, jobber, wholesaler, or retailer than that allowed by this schedule shall constitute an unfair method of competition. Credit conditions of contracts made prior to the effective date of this code are excepted from the provisions of this rule.

Rule 6. In as much as there are firms and corporations in the petroleum industry who severally or through firms and corporations owned or controlled, constitute and comprise a complete or integrated unit in such industry or produce and refine petroleum and market the products manufactured therefrom, the business thereof shall be so conducted that the several branches of this industry, viz.: producing of petroleum, refining, and marketing of refined products may be carried on upon a profitable basis and that no one or more of the said branches shall obtain or receive excessive or disproportionate gain or profit therefrom to the exclusion of any other branch of this industry.

Rule 7. Refiners, distributors, jobbers, wholesalers or retailers shall not hereafter sell, lease, loan or otherwise furnish to consumers of petroleum products or to anyone engaged in the sale of petroleum products at retail, any pumps, tanks, air compressors, greasing equipment or guns, lubsters, or other equipment or accessories (excepting only pump globes and the usual advertising signs) for the storage, display, vending, delivering or consumption of petroleum products, except as otherwise provided in Paragraph 3 of this rule. Notwithstanding the prohibition hereinabove contained, any co-operative society, association, or corporation of the type described in Rule 29 of this article shall be permitted to purchase for co-operative distribution to any member or members thereof, equipment of the kind hereinabove described, intended for exclusive use by such member or members.

If equipment of this kind, type or description hereinbefore mentioned now in operation becomes damaged, destroyed or

worn out, it shall not be replaced by any refiner, distributor, jobber or wholesaler.

The equipment of the kind, type or description hereinbefore mentioned, furnished, loaned or leased before June 15, 1933, by any refiner, distributor, jobber or wholesaler to or installed with any retailer or consumer shall, at the expiration of any contractual relation, and on the request of such retailer or consumer, be sold by such refiner, distributor, jobber or wholesaler to such retailer or consumer, or, in the absence of a sale to such retailer or consumer as herein provided, shall be sold by the refiner, distributor, jobber or wholesaler, who has made the loan, to any other refiner, distributor, jobber or wholesaler who is about to begin supplying petroleum products to such retailer or consumer, on the request of such other refiner, distributor, jobber or wholesaler, at the original invoice price, plus actual cost of installation, less a depreciation of 15 per cent per annum, but in no event at a price lower than that fixed in the schedule hereto attached marked Appendix "A." In the event of a purchase as herein provided by such other refiner, distributor, jobber or wholesaler, such equipment may be loaned, leased or licensed to the retailer or consumer at such location by any new supplier subsequently acquiring title thereto.

This rule does not apply to the sale of equipment by the manufacturer thereof where such sale is not conditioned upon the purchase or use of petroleum products. This rule does not apply to special equipment used in connection with the sale and distribution of propane, butane and other liquefied petroleum gases.

Rule 8. Refiners, distributors, jobbers, wholesalers or retailers shall not construct, repair, lease, loan or furnish driveways, buildings, canopies, air compressors, grease lifts or pits, grease equipment, grease guns, air towers, light poles, flood lights, material for driveways, buildings or canopies, or any other equipment of any character whatsoever in connection with service stations or the storage, display or sale or consumption of petroleum products (excepting only pump globes and the usual advertising signs and except as provided in Rule 7 of this article) for or to anyone engaged in the sale or delivery of petroleum products to consumers or for or to consumers.

Nothing contained in Rules 7 and 8 of this code shall prohibit refiners, distributors, jobbers or wholesalers or retailers from installing at or furnishing or equipping with any of the devices mentioned in Rules 7 and 8 any station or place where petroleum products are sold to consumers, which station or place is owned in fee by such refiner, distributor, jobber or wholesaler, or held by such refiner, distributor, jobber, or wholesaler under a valid and binding lease, and at the time the lease was executed the leased premises were not improved with any building or other facility or equipment for the sale or storage of petroleum products, or held by such refiner, distributor, jobber, or wholesaler under a valid and binding lease for a period of at least five years, which lease provides for a substantial rental not determined by the volume of petroleum products sold at the premises and which does not contain any provision permitting either party thereto to cancel or terminate it or the term thereby granted before the expiration of five years from the beginning of such term.

Nothing contained in Rule 8 shall prohibit any individual from setting up a station or place for the sale and distribution of petroleum products and from furnishing his own equipment at his own expense.

Rule 9. Refiners, distributors, jobbers or wholesalers shall not make any repairs to any equipment of any kind owned by retailers or consumers; and shall not make any repairs to any equipment now loaned or leased to or installed with retailers or consumers which necessitates the removal from the premises of the equipment in order to effect the repairs.

Refiners, distributors, jobbers, or wholesalers may make any ordinary repairs to any equipment now loaned or leased or otherwise furnished to retailers or consumers, provided such repairs can be made without the removal of such equipment from the premises.

Rule 10. Refiners, distributors, jobbers, or wholesalers shall not do any painting, nor furnish any paint free, or sell any paint for or to consumers or for or to retailers, except for pumps through which the products of the refiner, distributor, jobber, or wholesaler are sold and except usual advertising signs. Any new supplier shall assume the obligation of painting out colors identifying previous suppliers of the retailers or of anyone selling petroleum products to consumers or consumers with some neutralizing color other than that customarily used to identify places through which the products of the refiner, distributor, jobber or wholesaler doing the painting are sold or dispensed. Before any refiner, distributor, jobber or wholesaler paints over any sign or color of another refiner, distributor, jobber, or wholesaler, it shall communicate with the refiner, distributor, jobber, or wholesaler whose signs or colors are involved inquiring whether such refiner, distributor, jobber or wholesaler has any written contract which would be violated by the proposed painting. Any refiner, distributor, jobber, or wholesaler to whom such inquiry is presented shall respond thereto within 10 days from date of notice giving the information requested and if the proposed painting would violate any contract which it holds shall offer to submit the contract for inspection at its office. If such proposed painting would violate the contract so submitted, the painting shall not be done.

Refiners, distributors, jobbers, or wholesalers may sell paint direct to any other refiner, distributor, jobber or wholesaler. Nothing hereinabove contained shall prevent any co-operative society, association, or corporation of the type defined in Rule 29 of this article, from buying paints for co-operative distribution to any member or members thereof, provided that the purchase or sale of such paints shall not be conditioned upon the purchase or sale of petroleum products.

Rule 11. Except in such cases as constitute exceptions to the prohibitions contained in Rules 7 and 8 of this article, refiners, distributors, jobbers, or wholesalers shall not lend, lease, or otherwise furnish any equipment of any character whatsoever, except trade-marked pump globes and other usual advertising devices, to anyone purchasing or receiving petroleum products by tank car, tank barge, truck train or pipe line or to anyone selling petroleum products for resale, or consumption.

Rule 12. When any pump, tank, or other device for the storage, display, consumption, handling or sale of naphtha, gasoline, motor fuel or lubricating oil, bears the name, trade-mark, or trade name of any person, firm, association, or corporation engaged in the manufacture or sale of any such commodity, no other person, firm, association, or corporation shall deliver into or deliver for sale from such pump, tank, or other device, or any tank or other container connected therewith, any naphtha, gasoline, motor fuel, or lubricating oil, other than that manufactured, sold, or distributed by the person, firm, association or corporation whose name, trade-mark or trade name is so affixed, and no person, firm, association or corporation shall in any way knowingly be a party to the substitution of one grade or brand of naphtha, gasoline, motor fuel, or lubricating oil, for another.

Rule 13. Refiners, distributors, jobbers, or wholesalers shall not loan money to retailers or others engaged in the sale of petroleum products, or to consumers, for any purpose whatsoever and shall not extend any credit to any retailer or to anyone engaged in selling petroleum products to consumers except for merchandise sold for resale. Refiners, distributors, jobbers, or wholesalers shall not pay for or reimburse to any retailer or consumer, either directly or indirectly, any property tax, privilege tax, license fee or tax, inspection fee or tax, chain store tax, or any other charge, tax or impost levied or assessed by any taxing authority upon any retailer or consumer in connection with the operation of any place or facility for the sale of petroleum products, nor advance money for the same.

Rule 14. Refiners, distributors, jobbers, or wholesalers shall not pay rentals or otherwise pay for the privilege of displaying advertising on premises where naphtha, gasoline, motor fuel, lubricating oil, grease, kerosene, or heating oil are sold.

Rule 15. No refiner, distributor, or wholesaler or retailer or other person engaged in the sale of petroleum shall knowingly induce, attempt to induce, or assist a party to break a then existing written contract for the sale of petroleum products or a then existing lease of the premises used for the sale of petroleum products between that party and another.

No refiner, distributor, jobber, wholesaler, retailer or other person engaged in the sale of petroleum products shall sell or deliver any naphtha, gasoline, motor fuel, lubricating oil, grease, kerosene, or heating oil to anyone knowing that such sale or delivery will violate or prevent the performance of a then existing written contract between the person to whom the sale or delivery is made and another.

No contracts in violation of this code are protected under this rule. Nothing herein contained shall preclude the sale or delivery of any naphtha, gasoline, motor fuel, lubricating oil, grease, kerosene, or heating oil to any person who justifiably refuses further compliance with any existing written contract.

Rule 16. Lotteries, prizes, wheels of fortune, or other games of chance shall not be used in connection with the sale of petroleum products.

Rule 17. Except by permission of the planning and co-ordination committee, refiners, distributors, jobbers, wholesalers, retailers, and others engaged in the sale of petroleum products shall not give away oil, premiums, trading stamps, free goods, or other things of value, or grant any special inducement in connection with the sale of petroleum products.

Rule 18. Except by permission of the planning and co-ordination committee gasoline shall not be sold or delivered from tank wagons or trucks to motor vehicles except in emergency cases.

Rule 19. Pending decision by the Federal Trade Commission as to whether the lease and agency, lease and license methods of marketing petroleum products constitute an unfair trade practice:

(a) No new contract shall be written under either method,

(b) Any such contracts now in effect shall not be renewed for a period exceeding one year, and the cancellation privilege shall be on notice not exceeding 30 days,

(c) Provisions of Rules 7 and 8 shall apply in all instances to existing lease and agency and lease and license contracts and to renewals, as above defined,

(d) In so far as lease and agency and lease and license agreements are concerned, the provisions of Rule 15 shall not apply to soliciting the sale and purchase of petroleum products, and

(e) Should the Federal Trade Commission fail to render a final decision on the validity of lease and agency and lease and license agreements within 60 days of the effective date of this code, the President, or agency designated by him, may make a final decision prohibiting such marketing methods, or authorizing them without condition or upon such conditions as he or it may prescribe; or the President or agency designated by him may in his or its discretion temporarily prohibit the use of such marketing methods pending the decision of the Federal courts, or he or it may temporarily authorise such methods pending decision of the commission and of the courts, either without condition or upon such conditions as he or it may prescribe.

Rule 20. Refiners, distributors, jobbers, or wholesalers, may own service or filling stations or sites for same and may fully equip such stations or sites and may lease, operate, or license such stations or grant a license to anyone to operate such stations for the distribution of petroleum products manufactured or sold by such refiner, distributor, jobber or wholesaler or such refiner, distributor, jobber, or wholesaler may employ anyone as agent of such refiner, distributor, jobber, or wholesaler for the sale of petroleum products thereat.

Rule 21. No one shall make any delivery of naphtha, gasoline, motor fuel, kerosene, range oil, lubricating oil or heating oil at any refinery, terminal or bulk plant to a reseller, into any wagon, truck, tank wagon or tank truck owned or operated by or for such re-seller. The term "re-seller" as herein used shall not be construed to include any agent selling such commodities on a commission basis. Deliveries may be made in exchange for similar commodities received by the person making the deliveries from the person to or for whom the delivery is made.

Nothing in this rule contained shall apply to deliveries made to bona fide jobbers either in their own vehicles, or for their account, from refineries, terminals, or bulk plants.

Rule 22. Refiners, distributors, jobbers, wholesalers, or retailers shall not render any burner service in connection with the sale of heating oils and fuel oils unless a fair and reasonable charge is made for such service, which in no event shall be less than $10 per year and an additional charge made for the replacement of any parts at not less than their reasonable cost. Nor shall any refinery, distributor, jobber, wholesaler or retailer grant a commission of any kind to any person other than a regular employe of such refiner, distributor, jobber, wholesaler or retailer in connection with such sales, unless there is a contract between such refiner, distributor, jobber, wholesaler or retailer and a dealer, distributor, or manufacturer of oil burners providing for the payment of a commission to the latter for the sale of heating oils and fuel oils to oil burner users where such sales are evidenced by signed contracts. This rule is not to be construed to prohibit advisory service.

Refiners, distributors, jobbers, wholesalers or retailers shall not sell to consumers of heating oils and fuel oils for delivery by tank wagon or tank truck on a contractual basis for a period exceeding 12 months.

No refiners, distributors, jobbers, wholesalers or retailers shall knowingly sell any heating oil or fuel oil to consumers in tank car lots unless said consumers have facilities for receiving and storing tank car lots.

Rule 23. Refiners, distributors, jobbers, wholesalers and retailers shall permit any duly authorized employe, agent, or representative of the planning and co-ordinating committee to make any inspection or examination of books, records, contracts, plants, or stocks of merchandise to determine if there has been any failure to comply with the provisions of the code or any failure of the refiner, distributor, wholesaler or retailer, or by any other person, firm or corporation to pay any tax required to be paid because of the receipt, sale, or use of any naphtha, gasoline, motor fuel, lubricating oil, greases, kerosene, range oil, heating oil, or any other petroleum product.

Rule 24. Evasion of taxes in the sale of petroleum products gives to evaders an undue and unlawful advantage over legitimate marketers and is unfair competition within the meaning of the National Industrial Recovery Act.

Rule 25. The broadcasting or publishing, in any manner, of a claim, representation, or implication which leads to a false or incorrect conclusion in regard to the goods, prices, or service of the advertiser, or in regard to the goods, prices, or services of a competitor, or which lays false claims to a policy or continuing practice of generally underselling competitors, is an unfair and uneconomic practice and is prohibited.

Rule 26. In all sales of trade-marked or branded petroleum products for resale, refiners, distributors, jobbers or wholesalers may, by contract, require purchasers to sell at prices therein designated for such resale; and may further

require that if such products are thereafter sold by such purchaser for resale that the original purchaser shall incorporate a similar provision in the contract with its purchaser for resale.

Any purchaser who agrees to sell any refined petroleum products at the prices designated therefor by the refiner, distributor, jobber or wholesaler, from whom purchased, shall make all sales thereof at prices not less than those so designated.

Rule 27. The unauthorized use by any person, firm or corporation of the trademark, trade slogan, insignia, or emblem of any trade association in the petroleum industry, or the assertion or claim, by advertisement or otherwise, by any person, firm, or corporation that he or it is a member of any such association when in fact not a member thereof, shall be an unfair trade practice.

Rule 28. The provisions of this code shall not prevent an association, society or corporation organized or incorporated on the co-operative plan under any law or any state, territory or District of Columbia or of the United States as defined in Rule 29 of Article 5 of this code from paying patronage dividends to the members or stockholders of such an organization in accordance with the provisions of the law, the articles of association, articles of incorporation and/or by the laws of such association, society or corporation, and the payment of such patronage dividends by such co-operative organizations shall not be construed as a violation of this code, nor shall the payment or distribution of such dividends be construed under this code as an unfair method of competition; it being specifically understood that such dividends shall not be paid to nonmembers or nonstockholders.

Rule 29. All farm co-operative societies, associations and/or corporations, organized under the laws of any state, territory or District of Columbia or of the United States, membership in which is restricted to persons whose chief source of livelihood is farming or other co-operators organized and existing on July 1, 1933, and which comply with paragraph 12, Section 103, of the Revenue Act of 1932.

Rule 30. This code shall not apply to contracts actually made prior to the date on which this code is formally approved. Upon the effective date of this code it shall apply to all such contracts as soon as any cancellation or termination thereof can be legally accomplished.

This code shall apply to all contracts made after the date on which this code is formally approved, and shall apply to all renewals or extensions made after that date of contracts made prior thereto.

The provisions of this code shall not apply to transactions between subsidiary or affiliated companies. Companies shall be considered to be affiliated when one owns the majority of the outstanding capital stock of the other, and when the majority of the outstanding capital stock of each is held by the same individual, corporation, or association, or, in the case of co-operative associations as defined in Rule 29 of Article 5 of this code, when the local associations collectively own the majority of the outstanding stock of the central co-operative association. The parent companies owning the majority of stock in other companies shall be responsible for the observance by such subsidiary or affiliated company of the provisions of the rules of this code.

The provisions of this code shall not apply in respect to sales made in the United States for export to foreign countries.

Rule 31. A violation of any of the rules of this code shall constitute an unfair method of competition.

In the event any rule of this code or part of any such rule, should be disapproved or held invalid, such action shall in no way affect any other rule or part hereof.

ARTICLE 6

Transportation

The transportation subcommittee of the planning and co-ordination committee shall investigate transportation practices and rates, and shall from time to time recommend to the President such action as may be appropriate to be taken under the National Industrial Recovery Act, or otherwise.

ARTICLE 7

Organization

Section 1. The administrative machinery for the effectuation of this code shall consist of:

(a) The planning and co-ordination committee, representing the petroleum industry and the National Recovery Administration.

(b) A Federal agency to be designated by the President.

Sec. 2. The planning and co-ordination committee shall consist of 15 members, 3 of whom (without vote) shall be representatives of the National Recovery Administration and appointed by the President and 12 of whom shall be representatives of the petroleum industry, and, for purposes of immediate organization, appointed by the President from nominations made by a group or groups within the industry in such manner as may be prescribed by the President.

Sec. 3. The planning and co-ordination committee is set up to co-operate with the administrator as a planning and fair practice agency for the petroleum industry. Such agency may from time to time present to the administrator recommendations which will tend to effectuate the operation of the provisions of this code and the policy of the National Industrial Recovery Act and is charged in particular with endeavoring to promote the fullest possible co-operation with state regulatory bodies.

Sec. 4. The planning and co-ordination committee shall have a chairman from its own membership and the following working technical subcommittees:

(a) Statistical committee.
(b) Production committee.
(c) Refinery committee.
(d) Marketing committee.
(e) Accounting committee.
(f) Labor committee.
(g) Adjustment committee.
(h) Transportation committee.

Sec. 5. The Federal agency designated by the President shall make such estimates of petroleum requirements and such recommendations, allocations and inventories as may be required for the effectuation of this code.

Sec. 6. In order to provide necessary data upon which to base its studies for the purposes of this code, the Federal agency designated by the President and the planning and co-ordination committee are empowered to call upon the industry for the necessary statistical and other reports and any refusal to supply such reports is a violation of this code.

APPENDICES

Appendix A

Schedule of equipment prices to be used as a basis of purchase or sale between oil companies.

	Not lower than
Blind gasoline pumps:	
All makes of blind pumps, including duplex and all sizes 1 to 5 gallons capacity	$20 00
Visible pumps:	
5-gallon dry or wet hose visible, 10 or 15-gallon dry hose visible, dual bowl visible, all types, 5-gallon blind pumps with 5 or 10-gallon visible attachment, remote control visible, air lift visible—all of the above	30.00
10 and 15-gallon visible wet hose, all makes	40 00
10 or 15-gallon visible wet hose, electric power operated	50.00
Electric meter pumps:	
Electric flow meter pumps, with or without air separator	45.00
Electric displacement meter pumps, without air separator	70 00
Electric displacement meter pumps, with air separator	85 00

On any of the above pumps furnished in twin type the price shall be double that of the single unit.

Gasoline buggies or wheel tanks:	
Any capacity, identified by underwriters' label	$50.00
Same as above, not identified by underwriters	25.00
Skid tanks with pumps:	
Skid tanks used for gasoline, kerosene, or distillate, up to 550 gallons capacity, equipped with pump any type	25.00
Combination gasoline or kerosene underground tanks with pumps:	
100 to 200 gallons capacity, with 1 gal. or rotary pump	25.00

Miscellaneous Pump Equipment

Hydraulic systems, drop cylinder jobs, remote control systems, and any other special type of equipment including airport equipment and equipment used to serve marine trade, etc., shall be considered special equipment. Purchase or sale price shall be arrived at by joint appraisal on the premises.

Underground Tanks

Underground tanks shall be bought or sold at prices shown below, which include all installation costs, labor, materials, freight, etc., up to and including the installation of the pump itself (value of pump not included) on the following basis:

280-gallon tank	$35.00
550-gallon tank	50.00
1,000-gallon tank	75.00
2,000-gallon tank	100 00

These prices are for tanks of any specification, galvanized or black steel as now installed.

Capacities of tanks shown above are normal sizes and may vary 10 per cent more or less.

For each additional pump installed on one tank add $10 for installation cost.

Where the original installation of the tank and piping involved the removal and replacing of concrete, an allowance of 25 cents per square foot with a maximum allowance of 60 square feet for each tank and 60 square feet for pipe trench shall be added to price of the respective size tank.

Where tanks are installed under unusual conditions due to ordinances or regulatory restriction which resulted in excessive costs the purchase or sale will be based on the actual cost of such installation less 10 per cent per annum depreciation on equipment and material used plus actual labor cost.

Odd size tanks not covered by the above classification shall be bought and sold at a price interpolated between those specified.

Underground tanks and any part of the underground installation in connection therewith, may be repaired or replaced by the owner thereof. If replaced the new tank shall be of the same capacity as original and the original removed from the premises or made unfit for use.

Automobile Lifts, Racks and Pits

Automobile lifts of plunger type will be bought or sold at the invoice price date of seller's purchase, plus freight, less 15 per cent per annum depreciation from date of invoice, plus a flat installation charge of $40, plus an allowance for concrete, if any, installed by owner of lift, up to a maximum of 400 square feet, based on 20 cents per square foot.

Portable steel automobile lifts, grease and wash racks will be bought or sold on invoice price date of seller's purchase, plus freight less 25 per cent for depreciation and obsolescence per annum from date of invoice. No allowance for installation cost.

Pits and nonportable racks will be bought or sold on a basis of joint appraisal on the premises at time of exchange.

Compressors

Air compressors will be bought or sold on a basis of invoice price date of seller's purchase, plus freight, less 25 per cent per annum depreciation and obsolescence from date of invoice. No installation cost considered.

Kerosene Equipment

Kerosene equipment shall be bought or sold at the following prices for the respective sizes and classes:

80 to 85-gal. square kerosene tank equipped with pump	$12.00
120 to 125-gal. square kerosene tank equipped with pump	15.00
150 to 165-gal. square kerosene tank equipped with pump	25.00
200 to 220-gal. square kerosene tank equipped with pump	30.00
Round portable kerosene tanks equipped with pump:	
60 to 120-gal. capacity	6.00
Rectangular kerosene tanks equipped with pump:	
60 to 65-gal. capacity	12.00
Cellar kerosene outfits equipped with standpipe and pump:	
60 to 120 gal. cap. installed, ea.	40.00
250 to 270-gal. cap. installed, ea.	70.00
50 to 100-gal. miscellaneous faucet tanks and tin pump tanks	2.00
Lubricating oil equipment:	
50-gal. round lub. oil tank	3.00
60-gal. square lub. oil tank	3.00
15-gal. rectangular lub. oil tank	3.00
30-gal. rectangular lub. oil tank	7.00
60-gal. rectangular lub. oil tank	9.00
60-gal. 2 compartment lub. oil tank	10.00
90-gal. 3 compartment lub. oil tank	15.00
Any of the above lubricating oil equipment equipped with meter add $1.50 to the above price.	
1 quart oil bottles, ea.	.19
Tray for 1 quart oil bottles	.25
1 quart barrel pumps	1.00

Miscellaneous lubricating equipment such as air systems, built-in installations, underground installations, miscellaneous portable equipment, etc., not specifically mentioned in the above lubricating oil equipment shall be considered special and the purchase or sale price shall be arrived at by joint appraisal on the premises.

GREASE EQUIPMENT	
25-lb. grease bucket or kit without motor	$3.00
Same as above with motor	7.00
100-lb. grease outfit without meter	3.00
Same as above with meter	7.00

No charge for dolly in connection with the 100-pound grease outfit. Miscellaneous grease equipment such as built-in installations, portable equipment, power guns, special portable guns, hand guns, grease gun boards, etc., not specifically mentioned in the above grease equipment shall be considered special and the purchase or sale price shall be arrived at by joint appraisal on the premises.

Where grease boards furnished by supplier carry trade-mark advertising which cannot be readily effaced by any practical means, supplier shall remove from the premises.

Miscellaneous Equipment

Air and water standards, floodlights and lamp posts or any equipment not specifically mentioned herein will be bought or sold on a basis of joint appraisal on the premises at the time of exchange.

Signposts will be considered as property of oil company and shall be removed.

All signs owned by oil company may be bought or sold by joint appraisal.

Arbitration

In case any dispute arises over prices and values of all the respective equipment herein mentioned which do not definitely state a price, the suppliers involved shall choose an arbitrator who shall be a disinterested representative from some other oil company in the immediate vicinity to whom the suppliers shall present their case. The decision of the arbitrator chosen shall be final.

APPENDIX "B" MAXIMUM CREDIT TERMS

Credit Terms

1. Gasoline and kerosene sales: In tank car and barge shipments, 1 per cent 10 days from date of shipment net 30 days, 1 per cent on sight draft payments.

In tank wagon delivery, load-to-load, or net 15th proximo, no cash discount.

Service station deliveries: Coupons, or payments net in 30 days.

Coupon books, in denominations of not less than $10, may be sold at face value, without discount, for cash, or on credit payable net in 30 days. Coupon books issued by any company may be redeemed by any retail outlet where the trade-marked products of that company are sold.

Truck train deliveries, from refineries and terminals, or bulk plants to jobbers' bulk plants (3,500 gallons or over), 1 per cent 10 days from date of shipment net 30 days, 1 per cent on sight draft payments.

2. Gas oil and fuel oil sales: In tank car or barge shipments, or deliveries to ships bunkers, 1 per cent 10 days from

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Remarkable Example of Shallow Production in Backyard Wells at Blackwell, Oklahoma

By L. G. E. BIGNELL
Petroleum Engineering Editor

About five years ago a water well located on the west side of the town of Blackwell, Okla., went bad because crude oil broke into it. This was a dug well about 25 feet deep and was intended for domestic water. Nothing was done about it for a long time, but when the depression was at its height and many men were out of employment one of them secured the rights to sink another well to the oil-bearing formation.

This first oil well was located about 20 feet to the south of the ruined water well and was near the corner of the house. It struck the oil sand at about 16 feet below the surface and some oil was produced from it before the fire warden of Blackwell decided it was dangerous to have an oil well so close to city property and ordered its abandonment.

After the first oil well was plugged and abandoned, the operator moved to the back end of the lot in what had been a chicken yard and sunk his second well. This well was dug with a post-hole digger that had been rigged up with an extension handle. The hole was about 8 inches in diameter and was dug in a few hours.

It is reported that the upper 8 feet of the formation is a heavy clay that is not bad digging. Below this are alternate layers of soft shale and sand down to about 14 feet, where the top of the pay streak is found. As the operators have gained more experience in digging these little wells they have become quite expert in recognizing the top of the pay sand and use great caution in drilling into it because it has been found that too much penetration will drill the well into water.

There have been some hand dug wells sunk on the back lots in this strip about two block long and 30 feet wide and paralleling the railroad tracks. The pay streak has an east-west strike and the dip is slightly to the south. It consists of what is apparently river sand and is well saturated with a light gravity oil. The wells produce up to 2 bbls. per day apiece and with three wells on a lot the average production per lease has been about 5 bbls. daily.

The oil has a dark color and the odor of gasoline and it was thought at first that it came from drip or spilled oil from a refinery located across the railroad right of way to the south. It has since been quite definitely determined that this is not the case and the oil apparently has broken into the sandy streak from poorly cased wells in the south Blackwell oil field northwest of these shallow wells.

Apparently this streak of sand is cut off in every direction but to the northwest by shale bodies. This condition has created a trap along this strip where the shallow wells are found and into this trap the precipitates from the gas and oil escaping from the old wells has accumulated.

To the west of the "oil pool" there is a tract of vacant land and the owner thought he had a great place in which to sink a number of these shallow wells and secure an abundance of oil. The land was quite thoroughly tested and it was found that it is composed of clay. This is one reason why the theory of the sand pocket is advanced, because it is also known that there are similar clay bodies to the east and south of the area of small wells.

Method of Operation

As many of the well owners were oil field workers they followed much the same technique in developing their small properties as used in larger opertaions. The first requisite was to secure from the lot owner a lease. This usually consisted of a verbal agreement between the lot owner and the operator whereby it was agreed that a certain portion of the oil recovered and sold should be turned over to the property owner as royalty.

Digging shallow well in the Blackwell townsite pool

Having secured the lease, which is usually the back 30 feet of a 50-foot wide lot, the operator proceeds to sink his well according to his own ideas and experience. Some wells were hand dug, but when it was found that this was a lot of labor without any appreciable increase in production the use of the post hole auger was resorted to.

With the auger the 16-foot hole can be dug in a few hours. Care is taken in finishing the well at the proper depth and when the top of the pay sand is struck only a small penetration is made each run. The sand brought up each time is carefully examined for oil showings and by experience the operators have come to know when they have penetrated the full thickness of oil-saturated formation.

This oil is floating on water and some of this water is produced with the oil. Also the wells have considerable sand. It is common practice to pump into an old wagon tank and permit the water and sand to settle out. The oil is skimmed after a sufficient time has been allowed for separation, but it has been found that there is some very fine grit in suspense that is very difficult to remove.

Filtering through fine mesh cloth has been tried, but this treatment did not remove all of this very fine sand. About the only thing that can be done is to pump the oil into steel drums and permit it to stand several days when practically all of this fine silt will drop out.

The local market for this oil is quite brisk and it is used for motor fuel. It has sold for $1 per barrel, but it is not known that this is the average price as most sales are made to people who drive to the wells where they shop around for the best prices.

It is reported that there seems to be little decline in production from the field, although individual wells are frequently abandoned and new ones dug close by to facilitate recovery. After a time a well will make too much water and sand and it has been found that the simplest thing to do is to drill a new hole close by and produce from it.

The idea of digging a large hole has been tried and it was found that this did not increase the flow of oil but it did result in increasing water which added to the handling problems. As the labor involved in digging a large well is infinitely greater than sinking post holes, practically all production is now obtained by this latter method.

Pumping Problems

As soon as the hole is completed it is put on the pump without casing, for it has been found that the upper clay section stands very well and there is little caving in the lower part of the well. The sand that is produced with the oil evidently washes into the hole from the producing streak and does not come from cavings.

Pitcher pumps are most generally used. They are of the usual type with about 20 feet of suction pipe and as mounted at the well the spout of the pump is high enough above the ground to permit of discharge of the fluid from the pump into a steel drum standing on end. In some instances the wells produce into a common receptacle such as a half buried wagon tank.

At first hand pumping was resorted to but this was too laborious so some mechanical means of pumping was sought. Small internal combustion engines were first tried but because of the fire hazard they were abandoned and nearly every well is now pumped by electric motor. The electric light company has strung wires for a distributing system to this "field" and both light and power is delivered at a nominal cost.

Rigging up pumping equipment on shallow well in Blackwell townsite field, Oklahoma

In order to conserve on power and get a high load factor on the motor many ingeneous devices have been constructed. The usual motor is of the small industrial type such as used on washing machines. The largest will probably be rated at about one-fourth horsepower, but all of them seem to have ample power to pump two or more wells. The main problem confronting the well owner seems to be rigging up to utilize the available power at the different wells.

As a typical illustration of how such a problem has been solved, the hookup on one lot can be described as consisting of the well pumped by the motor direct through a bandwheel and pitman to walking-beam outfit. The motor is mounted in a convenient position with relation to the well and drives a solid wooden wheel about 2 feet in diameter grooved for a round sewing machine belt. This wheel is provided with a small wrist pin to which is attached the pitman operating the walking-beam that actuates the plunger in the pump.

Pumping the first well presented no special difficulties, but as there is ample

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General view of one of the "leases" in the Blackwell shallow oil field

Bell Oil and Gas Company Has Modernized and Added to Capacity of Dubbs Cracking Unit

By W. T. ZIEGENHAIN

A construction program for modernizing the Dubbs cracking unit at the Bell Oil and Gas Co.'s refinery at Grandfield, Okla., was completed recently and embodied several unique features. The revamped unit includes a new Lentz furnace, additional soaking capacity, a new fractionating tower, a Diesel driven Worthington hot oil charging pump and a new, complete Burrel-Mase vapor-recovery and stabilizing plant of special design.

General Operation

These changes permit the unit to handle 1,800 bbls. of fresh topped crude daily to yield 54 per cent 400 endpoint gasoline of 68 octane number motor method and 9 pounds vapor pressure or less.

Briefly stated, the flow of the oil is as follows: The 25 to 26 gravity topped crude is delivered from the skimming stills to the cracking plant at about 100° F. It is charged into a conventional Dubbs dephlegmator where it comes into direct contact with the hot vapors from the cracking chamber. The liquid portion within the dephlegmator is transferred to a low level in the fractionating tower under its own pressure differential, through an automatic reducing valve.

This fractionating tower also receives all of the cracked vapors from the dephlegmator and the gas oil vapors from the residuum stripper. The condensate that forms from these three streams, together with the unvaporized topped crude, collect in the base of the tower and are recycled through the cracking zone by means of the new Diesel driven hot oil pump. The oil in the base of the tower has a temperature of about 640 and is under a pressure of 65 pounds.

At the present rate of charging 1,700 bbls. of raw stock daily, the Worthington pump is handling about 5,100 bbls. per day. The pump works against a back pressure of 500 pounds. The Diesel engine has a rated capacity of 200 horsepower and operates on 40 A.P.I. gravity plant distillate. The engine and pump are directly connected with a fast floating shaft. It is an easy matter to control the speed of the pump by varying the feed to the Diesel engine, which is done by hand. Once the speed is established for a definite set of operating conditions, the charging remains constant due to the uniformity of power output from the Diesel. The cost of operating the Diesel driven charging pump, expressed in terms of plant fuel used has approximated 40 gallons per 1,000 bbls. of raw charge to the unit. The use of the Diesel driven pump makes the plant noticeably free of ground vibration. Leaks, line breaks and general plant operating conditions have been greatly improved over the average plant as the result of the installation.

The pump charges the oil to the furnace at a temperature of about 640° F. and the outlet from the furnace is maintained at about 910° F. and 250 pounds pressure.

The hot oil is pumped into the top of the new soaking or primary chamber where the cracking reaction is given time for completion. This primary chamber is set vertically. It is 40 feet high and 43 inches in diameter. The outlet is on the bottom and this affords a chance for the heavy uncracked portion of the crude to be removed from the cracking zone quickly while the lighter and slow reacting fractions tend to remain in the upper portion of the chamber a little longer and the effect of the arrangement is to automatically provide for the difference in rate of cracking for the various hydrocarbons.

A pressure reducing valve in the line from the bottom of the primary chamber into the top of the main cracking chamber allows a pressure differential to be maintained between the two of 100 pounds.

The hot oil, vapor and gas are sprayed into the top of the cracking chamber where the reaction is completed. The cracked vapor rise and are withdrawn from the top into the dephlegmator and the bottoms go to a resid stripper.

The residuum from the stripper is a 10 to 11 gravity fuel oil of 35 cold test having a b.s. and w. content running between .6 and .8 per cent, 75 Furol viscosity.

Yields

Under present operating conditions when charging 1,700 bbls. of 25-26 gravity topped crude daily the cracking unit is producing about 49 per cent of 400 endpoint gasoline plus about 4½ per cent light fractions that are recovered in the Burrel-Mase recovery system. This brings the average yield of the blended cracked motor fuel to 54 per cent based upon the raw charge. The Reid vapor pressure of the finished motor fuel is controlled by the Burrel-Mase stabilizer but on the basis of the data shown above, will range between 8 and 10 pounds to give the gasoline an octane value of 66 to 68 motor method and 73 to 74 Ethyl method.

The 10 to 11 gravity fuel oil produced will approximate 39 per cent of the raw charge to bring the total liquid recovery to about 93 per cent. The vapor recovery plant is yielding about 550,000 cubic feet of noncondensible gas daily to account for the balance.

Vapor Recovery Plant

The Burrel-Mase vapor recovery plant is a combined absorption and stabilization unit of recent development. Gas from the skimming plant operation is taken on suction by a low stage compressor and is combined with the cracking still gas at 35 pounds high stage suction and together these are compressed to 120 pounds absorber pressure.

The absorption menstruum is a well fractionated cut of the heavier hydrocarbons from the cracked gasoline. The combined cracked gasoline (P. D.) and absorbed lighter hydrocarbons are stabilized in two stages, producing approximately

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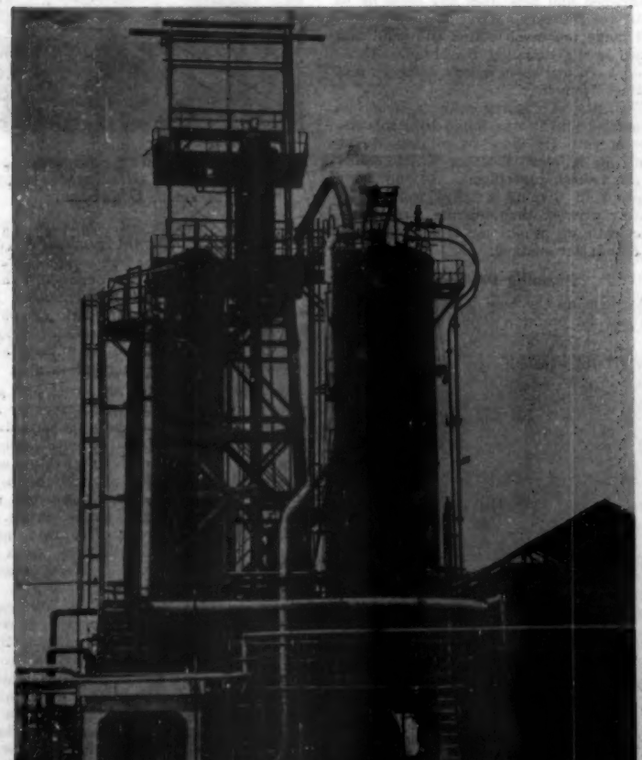
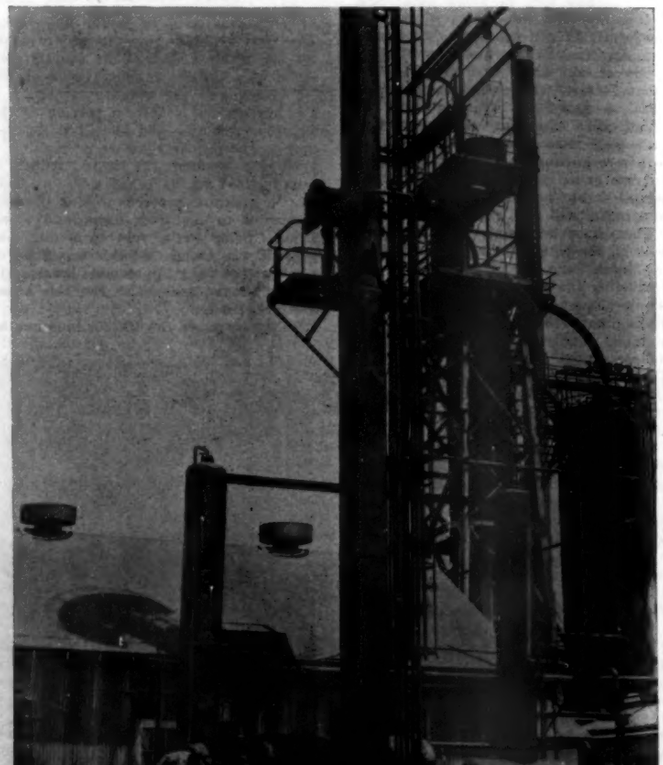


General view of Dubbs cracking unit at the Grandfield, Oklahoma plant of the Bell Oil and Gas Co. At the left are the new drum and fractionating tower



Burrel-Mase stabilizer and vapor recovery unit

Study of Water Problem in East Texas Indicates Best Solution Is Not to Produce the Water

By NEIL WILLIAMS

HOUSTON, Tex., Aug. 21.—The thorough study made by the antipollution committee of possible methods of disposing of large volumes of salt water expected to be produced from the East Texas Field has brought out one very definite conclusion—that is, the best way to handle the water situation there is not to produce the water. Many different projects for water disposal have been considered by the committee, as well as by various petroleum engineers and operators, but for the most part all either are impractical physically or else entail an expenditure almost prohibitive. Most of the plans which have possibilities of being worked out can be grouped into three main divisions:

1. Gathering and storing of the salt water to be released into the Sabine or Neches Rivers at flood stage.
2. Gathering and moving of the salt water through a pipe line to the Gulf of Mexico.
3. Returning the salt water to the sand west of the field.

It is fairly evident that plans of water disposal other than the above are not feasible in East Texas. Evaporation and seepage methods can be practiced only in much more arid regions where rainfall is less than evaporation. The size of the field and consequent large volume of water expected are not conducive to the construction of sufficient reservoir capacity for evaporation. Direct runoff into rivers also is inadvisable and hazardous in view of the fact that the capacity of these outlets is inadequate, except at flood or high water stage, to absorb any such volume of water as normally would be produced in East Texas.

In consideration of various disposal plans, the antipollution committee has figured on a daily water output of between 500,000 and 1,000,000 bbls. daily. Earlier in the development of the field it was calculated that water production would approximate 1,500,000 bbls. daily at the peak, this to come about the fourth year of the field's life. The estimate was based on the performance of Powell, Mexia, Wortham and other Woodbine fields. Proration and restricted production have revised that figure downward and delayed the approach of the peak, but the later calculations generally are accepted as being conservative.

Heavy Expense Involved

To handle this volume of water by any of the three possible plans so far presented would require extensive facilities which could be provided only at considerable cost, not only in initial investment but also in annual operating expense. In the first project, that of gathering and storing of water to be released into the Sabine or Neches Rivers at flood stage, there would have to be sufficient storage capacity constructed to impound all the water produced during dry seasons and periods of low water in the rivers. The second proposed project would call for the laying of a large pipe line or conduit, some 200 miles long, from the field to the Gulf of Mexico. Returning the water to the sand west of the field would involve the drilling of a large number of wells and installation of pumping equipment for the injection of the water.

Adoption of any of these plans would include the laying of a gathering system consisting of main lines and a network of feeders connecting all leases and wells. These probably would have to be of redwood or cast iron. Pumping equipment would be needed, and on the project to lay a conduit to the coast several complete main line pumping station would have to be built. To return the water to the sand, present wells as they go to water could be used in some instances but for the most part new wells would have to be put down, and the cost of the land for this purpose would be no small item.

Estimates have been compiled by the antipollution committee and engineers of approximate costs of each of the three possible projects under consideration. These are tabulated according to the projects as follows:

Estimates Tabulated

First, gathering and storing 500,000 bbls. of salt water per day to be released into the Sabine and Neches Rivers at flood stage:

	Redwood	Cast iron
Main lines and storage	$1,817,000.00	$2,135,000.00
Individual gathering systems	2,000,000.00	3,432,000.00
Total	$3,817,000.00	$5,567,000.00
Added cost per well	381.70	556.70

Second, gathering and moving the salt water through pipe line to the Gulf of Mexico [(a) 500,000 bbls. daily; (b) 1,000,000 bbls. daily]:

	Redwood	Cast iron
(a) Main gathering, main line and stations	$8,236,000.00	$18,667,000.00
Individual gathering systems	2,000,000.00	3,432,000.00
Total	$10,236,000.00	$22,099,000.00
Added cost per well	1,023.60	2,209.90
(b) Main gathering, main line and stations	$11,725,000.00	$26,313,000.00
Individual gathering systems	2,200,000.00	3,760,000.00
Total	$13,925,000.00	$30,073,000.00
Added cost per well	1,392.50	3,007.30

Third, returning 500,000 bbls. of salt water per day to sand west of field:

Wells and pumping equipment	$1,766,400.00
Gathering systems	5,272,000.00
Cost of land	(?)
Total	$7,038,400.00
Added cost per well	703.84

Estimates for the latter project are based on 10,000 bbls. per day through each well at 250 pounds pressure. Greater and lower pressures would reduce the cost. Correspondingly lower input and higher pressures would increase the cost. Cost per well figures are based on a total of 10,000 wells.

Annual operating costs for the above projects have been estimated as follows:

1. Power	$58,094.36	$58,094.36
Interest at 6 per cent	229,020.00	354,020.00
Amortization on five-year basis	763,400.00	1,113,400.00
Labor, transportation, supervision, accounting, etc.	144,000.00	144,000.00
Total	$1,194,514.36	$1,649,514.36
Cost per barrel of water	.006545	.009039
2. (a) Power	$186,309.70	$354,285.48
Interest at 6 per cent	614,160.00	1,325,940.00
Amortization on five-year basis	2,047,200.00	4,419,800.00
Labor, transportation, supervision, accounting, etc.	200,000.00	200,000.00
Total	$3,048,169.70	$6,300,025.48
Cost per barrel of water	.016702	.034521
(b) Power	$378,791.16	$1,036,651.72
Interest at 6 per cent	825,500.00	1,804,380.00
Amortization on five-year basis	2,735,000.00	6,014,600.00
Labor, transportation, supervision, accounting, etc.	250,000.00	250,000.00
Total	$4,249,291.16	$9,155,631.72
Cost per barrel of water	.011641	.025084

Because of the high cost involved, the plan to transport the salt water through a pipe line to the Gulf of Mexico must be discarded. The third project, that of returning the water to the sand, also may have to be dropped. No test has been made of this and there is some question as to whether or not it is possible. A test could be made without great cost if 10 or 15 operators would co-operate. The plan might be advantageous on the watershed south of Overton Ridge. However, should such a test fail due to any of several reasons, namely, cementation of the face of the sand by the solids in suspension in the salt water; lack of porosity; high pressure, etc., the operators would have to fall back on the combination storage-runoff plan, if water is produced in quantity.

Although the latter plan seems the only likely means of disposal of water produced in quantity, it also involves a sizeable cost, which would add a material additional economic burden to East Texas operators in per well expenditure. This, in some instances, might be prohibitive, and in view of the danger of possible pollution of river water even during flood stages, the plan is objectionable.

The only other alternative so far in mind is not to produce water in any quantity. That the latter may be the only solution of the East Texas situation has turned the attention of operators to the study of water production control, particularly the process of cementing back of wells as they begin to show water. Sufficient successful work has been done along this line in scattered wells to indicate that by a definite program of well plugging that the production of water, even at the peak, can be reduced to such an inappreciable volume that the disposal of it will offer no difficult problem.

Adaptable for Plugging Back

The East Texas field is particularly adaptable for a program of plugging back of wells. The water moving in from the west to replace the oil rises normally in a horizontal plane under the oil. Theoretically, under ratable and controlled production all recoverable oil would be displaced by water with the last production coming from the east side. Also, theoretically by the program of plugging back of wells and keeping the bottom of the holes always above the water table there never would be any production of water. The sand, according to tests, has a porosity of from 7 to 31 per cent, with an average of around 25 per cent, and in it are hard formation breaks. A formation of this type lends itself readily to cementing back under pressure.

The saving to operators effected by plugging back of wells under such circumstances as against the production of water in quantity can be appreciated readily. A good cementing job seldom costs more than $1,000. Against this cost are the savings in the following:

	Estimated saving per barrel of oil
1. Lifting salt water	.05 to .10
2. Treating oil	.007
3. Disposal of water by storage-runoff plan	.0065 to .009
4. Retaining salt water in sand as lifting and flushing agent	.035
5. Increased ultimate production by preventing trapping of oil	.010
Saving per barrel of oil	.1085 to .1594

The saving in production cost by the use of salt water as energy (No. 4 above) is figured on the basis of an oil recovery of 20,000 bbls. per acre as follows:

COST OF LIFTING OIL BY PLUG BACK PLAN

10,000 bbls. flowing at 6c	$ 600.00
10,000 bbls. pumping at 20c	2,000.00
Total	$2,600.00

COST OF LIFTING OIL WITH WATER

5,000 bbls. flowing at 6c	$ 300.00
15,000 bbls. pumping at 20c	3,000.00
Total	$3,300.00
Difference	$ 700.00
Divided by 20,000 bbls.	.035

The saving by increased ultimate recovery is figured by allowing an additional 2 per cent or 400 bbls. over the 20,000 bbls. estimated recovery, which at 50 cents a barrel, would be $200.00 and divided by 1 cent would be 1 cent a barrel.

Using 20,000 bbls. per acre recovery, and one well to each 10 acres, this saving would figure $21,700 to $31,880 per well against the cost of several plug back jobs, each of which should not cost more than $1,000.

In connection with the savings effected in lifting costs by the retention of the water in the sand by plug back jobs and the use of the water as energy, an additional thought is given in a statement of the Bureau of Mines to the effect that 4 per cent of the production energy in the East Texas field is caused by expansion and the remaining 96 per cent by other forces. The other forces can only be the water drive, so consequently if an operator spends real money to produce and dispose of water he is depriving himself of 96 per cent of his production energy.

TEAPOT DOME STATION SOLD

CASPER, Wyo., Aug. 19.—Only three bids for the old Sinclair pump station at Teapot Dome were received in the office of the inspector of petroleum reserves, Commander A. A. Baker, Casper: Denver Metal and Machine Co., Denver, Colo., $3,101; Contractors Machinery Co., Kansas City, $7,800, and American Iron and Metal Co., Casper, $7,680.80. The plant was operated for about four years. The sale to the Contractors Machinery Co. (W. C. Berry), Kansas City, Mo., was confirmed at Washington.

FATAL GAS EXPLOSION

MOUNT PLEASANT, Mich., Aug. 19. Allan Carruthers, tool dresser, received fatal burns in a gas explosion at a drilling well in Porter Township, Midland County. He died in the Saginaw hospital. An unlooked for flow of gas at 2,800 feet prompted the driller, George Fryogle, to shut down. He left the rig to go to a nearby farm house to make his report, leaving Carruthers at the well. The rig was destroyed by the fire that followed the explosion. The well was Pure Oil Co.'s No. 1 Miller, in Section 17.

Henry Staiti's First Drilling Rig Was a Two-Horse Marvel, but Didn't Produce Any Oil Wells

By THOMAS F. SMILEY

The first drilling operations engaged in by Henry T. Staiti, pioneer in the development of Gulf Coast oil fields, were conducted with a 2-horsepower machine. That is to say, two horses, dejected of eye and protuberant of rib, hired from a near-by farmer, provided the power. Notwithstanding its bizarre features, the machine, known as a Fort Worth driller, was in principle like the standard cable tool drilling rig. A pole extended from opposite sides of a big wheel, or circular platform, resembling the familiar handwheel used in operating pumping jacks. These horses, hitched to the ends of this projecting pole, and traveling round and round in a circle, revolved the circular platform.

When this revolving platform reached a certain point in its rounds it released a trigger, which caused a walking beam to drop and make a stroke in the hole. When the platform had made a half turn from this point it raised the cable for another stroke. These two alternating operations of raising and dropping the tools continued so long as the horses, stimulated by an occasional crack of a whip, kept up their destinationless journey.

A young son of the man who owned the horses was assigned to keep them going, a task accomplished with varying degrees of success. As pay for the service was based upon the depth of hole made, the owner of the horses wanted the work speeded up. The boy left in charge was not wildly enthusiastic over his job and as soon as his dad got out of sight the horses often chose their own rate of travel. When the farmer reappeared unexpectedly, as he did from time to time, and found the work dragging, he would seize the youngster by the shirt collar, escort him to the seclusion of some near-by trees and there administer rites commonly performed in the woodshed of unhappy memory.

Waco, Tex., was the scene of these early wildcat operations. Young Staiti was interested in a real estate firm there, and the townlot oil development in Corsicana, Tex., then at its height, had given him an idea. Waco was experiencing the exhilarations of a boom—water, not oil. Water had been a scarce and precious commodity in that region. The Bell Water Co., a contracting company, had drilled a series of artesian wells, from which was produced an abundance of pure water, conferring upon Waco fresh and important attractions as a town in which to reside and do business.

It Meant Oil, Didn't It?

In several of these water wells small showings of oil had been found. That meant oil probably was there in commercial quantity, didn't it? Young Staiti reasoned that it did.

Several years before this Waco had experienced the anticipatory thrills of a prospective oil boom, and the circumstances of this early excitement were recalled by young Staiti, assuming in his mind, which had yet to be seasoned by the hard realities of the oil field, the proportions of substantial evidence.

The story went that when the family of C. J. George, a farmer residing 3 miles north of Waco, sat down to breakfast one morning, the food was so unpalatable because of its taste and odor that none could eat it. Supposing the fault lay in the vessels used in cooking, Mrs. George threw away the breakfast and prepared another. It was worse than the first. Investigation revealed that the water used, coming from an 1,800-foot artesian well near the house, was contaminated with petroleum. When a match was applied to this petroleum it ignited.

A Waco newspaper reported the occurrence and added: "There is a great deal of excitement in the city and the hope is indulged on all sides that Waco is now to have a run on oil wells like other Texas cities." A later issue of the newspaper said: "There is a regular '49 rush for the location of the find. . . . Enough has been ascertained to warrant the belief that Waco has struck oil."

It Was a Short-Lived Boom

But it was not to be. A simple explanation of the oil in the Georges' breakfast was found. In most of the water wells the surface casing had been set at a point slightly below the formation in which the oil showing appeared. After this surface casing had been set at a depth of 250 to 300 feet the hole was reduced in size and a string was carried to the artesian sand at a depth of 1,650 to 1,850 feet. In the case of the George well examination showed a leak had developed in the water string at a point above the bottom of the surface casing, which permitted oil trapped in the surface casing area to be siphoned into the water string and then carried into the pipe line to the residence. As soon as this little accumulation of oil had been taken to the surface the oil boom ended.

At this stage of his experience as a wildcatter Henry Staiti was not hypercritical concerning any evidence which seemed to point to the existence of an oil pool. He talked over the subject with J. B. Fowler, an oil-well driller from West Virginia who had taken a job with the company drilling the Waco water wells. The West Virginia man, who had learned something about the mysteries of petroleum and its vagaries by practical work in the field back in his home state, offered encouragement, expressing the belief that the Waco oil prospects were good.

So Henry Staiti, in association with several other men of Waco, entered into a contract with the farmer previously mentioned, obtained some oil leases and forthwith began to devote all his time to drilling operations with the two-horse rig described.

Chastened, But Not Licked

This first adventurous game of hide and seek with petroleum did not last overlong. Three holes were drilled to a depth of about 500 feet. Each, except for faint shows of oil, was dry. And there was no money left with which to put down more holes. So Henry returned to his real estate operations, chastened but not licked.

Mr. Staiti's next excursion into oil was to see a fortune, almost within his grasp, snatched away with dramatic suddenness by the hand of death. Soon after his ill-starred wildcat ventures at Waco he showed a wealthy lumberman and landowner some oil samples from the Bell Water Co. artesian wells which he had saved.

"Why don't you go where the oil really is," asked the lumberman, who described seepages which he had seen in the region of Sour Lake in Texas.

The lure of the quest for oil seized the young man again. He decided to see for himself these indications of untapped petroleum reservoirs. In 1898 he made a careful study of the Spindletop, Sour Lake and Southeast Texas areas and became firmly convinced that oil underlay the spot where big wells later were completed in the Spindletop Field and that it was present at other points in these districts.

Spindletop at this time was a tract of land, shaped like an arrowhead, or spindle, plotted for real estate development on the outskirts of Beaumont. Mr. Staiti tried without success to obtain oil leases here. Jefferson County, of which Beaumont is the seat, was just starting in the rice growing business, and its citizens refused to be interested in any project that contemplated using their land for any other purpose.

Sour Lake Next

Transferring his efforts to Sour Lake, Mr. Staiti found that 800 acres of land in this district was owned in fee by a group of men who maintained a pleasure and health resort patronized largely by folk from South Texas. The original promoters of the resort shortly after the close of the Civil War had built a large two-story frame hotel of colonial type along with facilities for sulphur water baths. At the time of Mr. Staiti's visit the hotel was open, but with virtually no patrons. There were several small buildings on the premises, one of which was occupied by a negro who styled himself "Doctor Mud."

Doctor Mud's "sour mud baths," made from the Sour Lake sulphur water, had become famous. Besides the baths the negro sold the mud itself under the name of "Doctor Mud's Beauty Mud."

Early prospectors had drilled a few shallow oil wells in the district. A gooseneck device had been installed at some of these old wells and oil which dripped from it was caught in bottles or jars. Mr. Staiti found that the pioneer wildcatters here had been unable to drill beyond a shallow depth because of a quicksandlike formation which they encountered. The cable tools had been unable to get through this soft stratum.

The rotary drilling method had been introduced at Corsicana and Mr. Staiti after a careful study of the situation felt certain that a rotary outfit, or "Corsicana rig," as it was designated at that time, would overcome the difficulty presented by soft sand at Sour Lake. He ascertained that an oil lease on the 800 acres included in the resort property could be obtained, but that he would need strong financial help if he were to get it. He ascertained also there was just one man in all his acquaintance who not only was able to provide the money needed but who shared Mr. Staiti's conviction fully enough to be willing to risk investment. The necessary legal formalities were almost completed and Henry Staiti seemed about to realize his dream of a fortune in oil when the man upon whose financial aid he was depending died suddenly.

Back to Waco

Mr. Staiti tried vainly to interest important oil operators in the Sour Lake area. Disappointed and temporarily defeated, he returned to real estate in Waco.

When the Lucas gusher, Spindletop's discovery well, was completed in 1901, Mr. Staiti closed up his affairs in Waco and hurried to Spindletop and began oil

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They Always Found Some Way to Drill a Well

The quaint two-horse outfit which H. T. Staiti employed in drilling his first wildcat tests near Waco, Tex., was only one of many ingenious devices contrived by early seekers after oil or water. Chinese records show that well-drilling rigs were used hundreds of years before the Christian era.

HENRY T. STAITI

The prototype of the springpole, used in kicking down many of the early oil wells in the United States, is found in the springboard first operated by coolies in China. Descriptions of this ancient method of putting down a well tell how the driller guided the cable, to the end of which a bit was fastened. Coolies one after another leaped from a platform and alighted on the springboard, from which the drilling cable was suspended. As the springboard bent suddenly under the weight of the coolie it permitted the bit to drop sharply to the bottom of the hole. The bit was jerked up again as the springboard resumed its original position, only to be bent again by the next jumping coolie. Thus, instead of a "stroke of the beam" they had a "jar of the board," and the jar was increased by using a heavier coolie.

For centuries the Chinese used natural gas in the district of Tsien Luon Tsing, where, according to ancient manuscripts, they had wells 3,000 feet deep. The Chinese were first in the pipe line business, too. They constructed lines by joining bamboos end to end. Brine wells, which often produced gas and petroleum, were drilled in China long before the rudiments of deep-well drilling had been mastered in any other country.

Maybe Uncle Sam can help the oil industry to produce more wisely and to market more economically

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Southwestern Kentucky Counties Are Studied for Their Oil and Natural Gas Possibilities

By DORSEY HAGER

In this article I am presenting the results of a five months' study of Southwestern Kentucky. Some of the stratigraphic and structural data given here is taken from Kentucky State Geological Survey Bulletins, from U.S.G.S. sources, and from my own correlations of numerous well logs, and from surface data. The Kentucky State Geological surveys and the U.S.G.S. surveys were made largely to define the coal areas, and to map the stratigraphic relations. Little consideration was given to petroleum or to natural gas at that time.

I must state that I entered that area prejudiced against it. From the geological information extant, and from talks with a few geologists who had been near the area, I received the following impressions:

1. That the area was too much faulted to be favorable for petroleum and natural gas.
2. That there were no structural traps favorable for oil and gas accumulations.
3. That "sand" conditions were unfavorable.
4. That the area was cut by dikes and metamorphosed.
5. That the area had been disproven by numerous test holes.

Frankly, from what I gathered, the area was distinctly out *of* the limits of petroleum or of natural gas possibilities.

Good Prospects for Production

After my study of Southwestern Kentucky, and by that I define the area specifically as comprising parts of Webster, Caldwell, Christian, Hopkins and Muhlenberg Counties. I have reached the following conclusion, namely:

No sound nor valid reasons theoretically nor practically exist why that area should not prove as productive of petroleum and natural gas as other Western Kentucky counties, such as Ohio, Davies and Hancock Counties, for the following reasons:

1. There are already three commercial natural gas pools in the area, and three small oil pools showing that oil and natural gas do occur in the area.
2. The faults on analysis provide favorable traps for commercial oil and gas pools, as five of the six gas and oil fields are along faults or related to them.
3. Anticlines and domes in number do occur there besides the faults mentioned in (2).
4. "Sand" conditions appear as favorable as in other producing areas of Western Kentucky.
5. I have found but one dike in this area and that outside favorable limits, and no important metamorphic action in the area I've studied.
6. An analysis *of* the test hole data shows that oil and gas could hardly have been anticipated where most of the tests were situated.

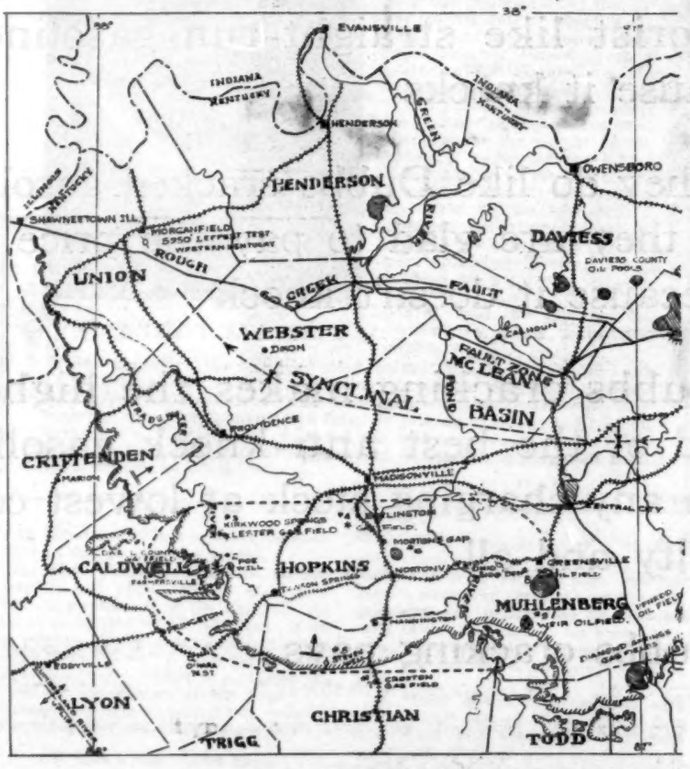
The rest of this article presents the information as I find it. Whether or not the area will prove as commercially profitable as other Western Kentucky areas remains to be proved, but I anticipate it will prove fully as important, if not more so, for oil and for natural gas. Certainly geological conditions here warrant testing on favorable structural conditions instead of the sporadic hit and miss testing methods used to date. If a series of well situated tests fail to open further commercial oil and natural gas pools, then it is time to condemn the area.

There is, as I see it, no chance there to open any very large oil fields, nor immense gas fields, that will menace the oil or gas industries. There is, however, a chance to open 25 or 30 new oil and gas pools. The attractions of that area are the low costs of testing and of operating so that even small producing oil wells will prove profitable. There is also a good market for natural gas if it can be developed in volume.

The area has been passed by, due to lack of intelligent studies by the oil and gas men and too by the fact that testing there largely took place when the oil industry was on the down grade.

I anticipate considerable activity there when the oil business is again in good condition.

The reasons for the conclusions will be found in the remainder of this paper. I have striven to give a concise account of the geological and operating conditions for those who want to know about the area.



Index map showing Western Kentucky oil and gas fields

St. Peters' or "Calciferous"

The lowest lying beds that have been drilled in this area belong to the limestone beds lying beneath the Eden shale, which occurs 400 to 500 feet above the St. Peters' sandstone, or "Calciferous formation" of Kentucky. The limestone beds were found in the test 5,100 feet deep of the Ohio Oil Co. near White Plains, Muhlenberg County. However, the St. Peters' standstone, the "Wilcox" of Oklahoma, was not penetrated.

The St. Peters' sandstone, or "Wilcox" of Oklahoma and of Kansas, has not been adequately tested in Kentucky and little is known about its character in Kentucky. It was penetrated 55 feet at Shepardsville, Bullitt County, where it was a coarse grained sandstone carrying some oil and gas.

If this sandstone should prove productive in Kentucky, it would open a wide area for exploitation. Depths to this sandstone would range from 5,000 to 6,000 feet in this area, dependent upon the starting point. A test on the southern border would need to be carried 5,000 feet, one on the northern border 6,000 or even more, with intermediate points having depths between this range. This horizon should by all means be tested. Whether or not it will prove productive only the drill can tell.

"The Corniferous"

Above the St. Peters sandstone and up to the "Corniferous" occurs a group of beds 1,700 to 1,800 feet thick, belonging to the middle and the upper Ordovician, the Silurian, and the Devonian series. These beds are not described in detail. They are principally limestones carrying some shale beds, especially the Eden 200 feet thick belonging to the Ordovician series.

The lower limestones are terminated upward by the Chattanooga shale of the Devonian system. The limestones just below the Chattanooga shale comprise the "Corniferous" (the Sellersburg and Jeffersonville limestones), and is a well recognized oil producing horizon in Kentucky. It belongs to the upper Devonian series, the Hamilton of earlier writers. The "Corniferous" is a gray to brown limestone, pitted on exposure.

The oil horizons occur in the limestone just below the Chattanooga shale and from 15 to 100 feet in the underlying limestone.

"McCloskey" Horizon

The next recognized oil and gas horizon is the "McCloskey" that occurs at the top of the St. Genevieve or more particularly the Roseclaire sandstone and the lower O'Hara limestone of the St. Genevieve.

These beds are approximately 1,800 feet above the "Corniferous" horizon. Between them is the New Albany-Chattanooga shale 300 feet or more thick lying just above the "Corniferous" beds. For 1,400 to 1,500 feet there is a series of massive brown and light gray limestones with only a few thin shale or sandstone breaks until the "McCloskey" horizon is reached. The "McCloskey" in southwestern Kentucky is a thin calcareous or limey-sandstone that varies from 5 feet to 25 feet in thickness. It has proven productive at Greenville, and is also the deep "pay" zone at Morton's Gap. It is quite variable as in some places it is present, and in others the wells show the porous zone entirely absent. In Illinois and parts of Kentucky it is a consistent oil producing horizon.

Chester Group

The Chester group includes the upper Mississippian series, and is the most important group from an oil and gas viewpoint in this area. This group lies above the Meramec group just discussed.

There are 15 formations that comprise this group, eight limestone and shale bearing formations and seven sandstones. The lowest formation is the Renault limestone, the highest, the Kinkaid limestone.

The sandstones above are listed in order here, the youngest at the top.

		Thickness (feet)	Average (feet)
1.	Degonia	0-20	10
2.	Palestine	0-60	30
3.	Waltersburg	0-20	10
4.	Tar Springs (Stephens)	60-100	80
5.	Hardingsburg "Jett"	6-60	30
6.	Cypress "Jackson"	0-50	25
7.	Bethel "Barlow"	0-55	27.5

The Chester sandstones are so similar in lithologic character that they are hard to distinguish from one another. Their relationships to the limestone and shale beds above or below them is the most satisfactory basis at present correlation. The upper three sandstones have so far shown little oil or gas throughout the area and are not here considered as of commercial importance. The lower four sands, 4, 5, 6 and 7 in the table are sands producing at other places in Kentucky and have shown oil and gas in wells drilled in this area. The Bethel sandstone produces gas at Crofton and has shown oil in several other wells. Wells in the Weir and Greenville oil fields produce oil from the Bethel.

The Hardingsburg sandstone has shown oil and gas in various test wells. The Tar Springs is the gas horizon from which the Lester gas wells produce.

As noted above these sands are listed as ranging from 0 to a maximum known thickness. This is necessary for in some of the wells, one or two of the sands may be completely missing their position being occupied by shales or limestones, also thicknesses vary. Averages are given, but I attach little value to them.

These sandstones are formed of well-rounded, fine and medium sized quartz grains. The cementing material is iron, calcium-carbonate, or silica. They vary in porosity due to cementation. I think a fair average would be 15 per cent, but this is variable. In color the sands wash out a light brown to white.

Pennsylvanian Oil and Gas Horizons

The possibilities of oil and gas in the basal Pennsylvanian beds must not be overlooked. The shallow 510-foot produc-

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Not the Last Word

The oil industry, like others, has been awaiting its code very much as if it were Judgment Day. The first thing we need to realize is that the code is not going to be eternal.

The draft signed by President Roosevelt is very far from being the last word in code making. It is merely a beginning, a base upon which to build.

The President himself has said that many of the things his administration is attempting are experimental and has indicated that he is proceeding on the method of trial and error; if any one plan fails he will try another.

This undoubtedly applies to industrial codes as well. But he has to start somewhere and, since the oil industry proved incapable of agreeing upon a code, he had one drafted for trial.

The great majority of its provisions will be accepted by the bulk of the industry as reasonable and constructive. Differences of opinion on a few major points, such as price fixing, while deep seated, will not, of course, stand in the way of general support of the code as a patriotic duty.

That, however, does not mean that if experiment or experience shows the code needs revision changes cannot be made.

The code itself provides for just that revision, in the creation of a planning and co-ordinating committee charged with the duty of recommending adjustments.

This committee will consist of three (without vote) selected by the President and twelve nominated by the industry, a sufficient guarantee of self-government if the industry nominates wisely.

Throughout this whole business the President has given the industry repeated opportunity to take hold of its own affairs and settle its own problems, even going so far as suspension of hampering restrictions on concerted effort in the antitrust laws.

As chief executive of the nation he has more than enough problems of his own without assuming those of this or that industry. So, even when forced to draft a code for oil industry, he again provides an agency by which the industry, if it really wants to, can still run its own business.

The price-fixing provision in the code is a case in point. Taking the average price of Mid-Continent crude of a certain gravity for the past five years and the average refinery price of a certain grade of gasoline in the same period it assumes that as a starting point.

Now this may be representative of the past five years but the past five years have been abnormal in the oil business.

Early in 1928 a meeting of operators declared that "the actual and potential output of crude oil has far outdistanced demand, causing prices to fall to unremunerative levels so that the market price of crude oil, broadly speaking, has declined substantially below the cost of production".

The oil industry was suffering depression from overproduction which it could not control years before the general depression hit the country in the Fall of 1929. In addition, for the past three years the oil business has suffered a decline in the demand for its principal product due to general conditions and overtaxation.

It cannot therefore be assumed that the average price of crude oil and gasoline during those five years of exceptional conditions represents a fair price under any system of national recovery.

Still less so, if the industry is going to be obliged to add millions to its costs through shorter hours and higher wages.

If the industry is going to be able to meet that bill it must certainly have a better price for crude and gasoline than the average for five years of depression.

Another feature of the price fixing provision is that it seems concerned only with crude and gasoline. As one commentator observed: "They have got hold of only one foot of the oil problem and it's a centipede."

How about the other products of refining the supply of which and the return from which are related to the production of gasoline? The question does not begin and end with so much crude and so much gasoline.

On crude oil the code says differentials will be established on gravity and locality. Presumably also for lubricant value and crude not purchased on a gravity basis.

It is not to be expected that there will be any revolutionary changes in the price relationships established by years of marketing experience.

The erection of refinery districts should be a stabilizing influence in both the crude and gasoline markets.

All the many angles which could be included in the drafted code without making it unwieldly will be left for the planning and co-ordinating committee to work out, subject to approval of the President.

The twelve members of that committee to be nominated by the industry should be big men, not representatives of any group or faction, but men to whom the whole industry can trust its fortunes.

The working of the code which is to govern the industry will be largely in their hands. If any of them are ill-chosen or unfit to consider the interest of the industry as a whole the administration may despair of self-government in the oil industry and feel compelled to assume a larger control than it now wishes.

As the situation stands the industry has another chance to make good. The code signed by the President, drafted by the administration in default of agreement within the industry, is, as was predicted, unsatisfactory in some respects. But, in view of the impossibility of compromise within the industry, that was the only way out.

Now there is only one course for the industry—loyal and effective acceptance and execution of the code as a matter of public and private duty to stand behind the President in this hour of emergency.

That is the American way. Then if there are details to be adjusted, kinks to be straightened out, the means is provided through the planning and co-ordinating committee.

The code offers to the industry, for the first time, such opportunity to rid itself of uneconomic handicaps and long standing abuses, that it can be welcomed as a stride toward stability. The price-fixing clause may have to be tested by experience but no one can doubt that if the industry demonstrates ability to manage its own affairs difficulties can be adjusted and sounder business established.

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Adoption of Code Results in Higher Prices for Several Products in Oklahoma Markets

By C. O. WILLSON

The response of the Oklahoma (Group 3) market to the announcement that the oil industry code under the NRA would become effective September 2 was a general strengthening in all products. The most important advance was in third grade gasolines which advanced one-fourth cent for the seven-day period with the probability that higher levels will be reached before the end of the week. The regular and premium grades also were stronger but the price range on the latter grade remained unchanged with one-eighth cent advance in the middle octane material. Natural gasolines also were stronger. Kerosene, distillate, gas oil and residual fuels shared in the advance with less material available not only in Oklahoma but other Mid-Continent refining areas. Lubricants and wax were firm.

When it became apparent the latter part of last week that some form of a code would be made official in a few days, additional refiners restricted their offerings and for the most part refused to take on future business at current prices. Buyers at the same time appeared to be convinced that the immediate effect of the code would be higher prices and spot sales increased in number with many anxious to make purchases for delivery over the latter part of August or early September.

The better market tone continued on Monday and Tuesday following the definite announcement of the code's provisions on Saturday. The trade appeared unanimous in the conclusion that for the immediate future at least tank car prices on practically all products were headed upward with the possibility that the next 30 to 60 days would see prices at the highest levels in two or three years.

At the same time there were those among the refiners who feared that the turn in market would be of doubtful value to them so far as profits were concerned. This attitude was confined to those refiners who buy all or a large part of their crude oil for their plants and who must depend on a manufacturing profit to cover their entire operations. Their position often differs materially in regard to profits from that of integrated or partially integrated competitors who can offset a manufacturing loss through profits in the crude production, transportation or marketing branches of their operations. Some of these refiners claim that the relationship of 18.5 times the Group 3 (Oklahoma) tank car price of 60-64, U. S. Motor gasoline for crude oil at the wells, establishes too high crude oil prices for profitable refinery operations. This situation is discussed in detail in an article appearing elsewhere in this issue.

It is apparent that numerous questions will be asked by refiners in the Mid-Continent regarding the provisions of the code before it becomes effective on September 2. Although they have only had two or three days to study the code there are several provisions, the application of which are not clear to both buyers and sellers. The answers to the questions are particularly important to refiners who attempt to gauge their operations over a period of time with contracts covering the purchase of crude oil and the sale of refinery products. There are many refiners whose operations are largely on a week-to-week or month-to-month basis but in the case of permanent units, operations must be planned over much longer periods.

In addition to its fairness under present market conditions there are several other angles to the price fixing plan of the code regarding which the trade is in doubt. It is pointed out that the price fixing feature is based on the middle octane gasoline and no provision is made for the control of the price of the low octane, or third grade. The third grade product in the Mid-Continent actually bears a more direct relationship to the price of crude oil than does the regular or premium grades. The latter are largely a product of the cracking processes or are secured by treating with tetraethyl lead and in that sense their value is partially obtained through special manufacturing or blending operations.

Third grade gasoline on the other hand is generally obtained by natural distillation of the crude oil and over the past three years it has been the product which flooded the market from the small skimming plants. It is contended that the price for this product must be controlled or it will continue to be the dominant factor in gasoline prices especially during periods of general weakness in the market. This same line of reasoning is applied to products other than motor fuels. While the production of gasoline is the most important phase of refinery operations for the industry as a whole,

Refined Market Barometer

The adoption of a NRA code for the oil industry was reflected in stronger refinery markets in practically all areas the first of the week. In expectation of higher price levels for crude oil and refinery products, refiners were restricting their current offerings and buyers were more active being especially anxious to purchase for future delivery. Gasolines which have been weak at several points since early July, strengthened during the week and prices were advanced from one-eighth to one-half cent. Kerosene and distillates were generally firm with an upward price trend in gas oils and residual fuels. Prices were higher in areas where changes were reported in lubricants. Wax firm.

Mid-Continent—Refinery gasolines strong. Fractional advances in kerosene, distillate and gas oils. Strong demand for industrial fuels. Lubricants and wax unchanged.

East Coast—Adoption of code ends weak gasoline market. Kerosene steady. Expect advances in bunker fuels and gas oils. Some grades of cylinder stocks advance.

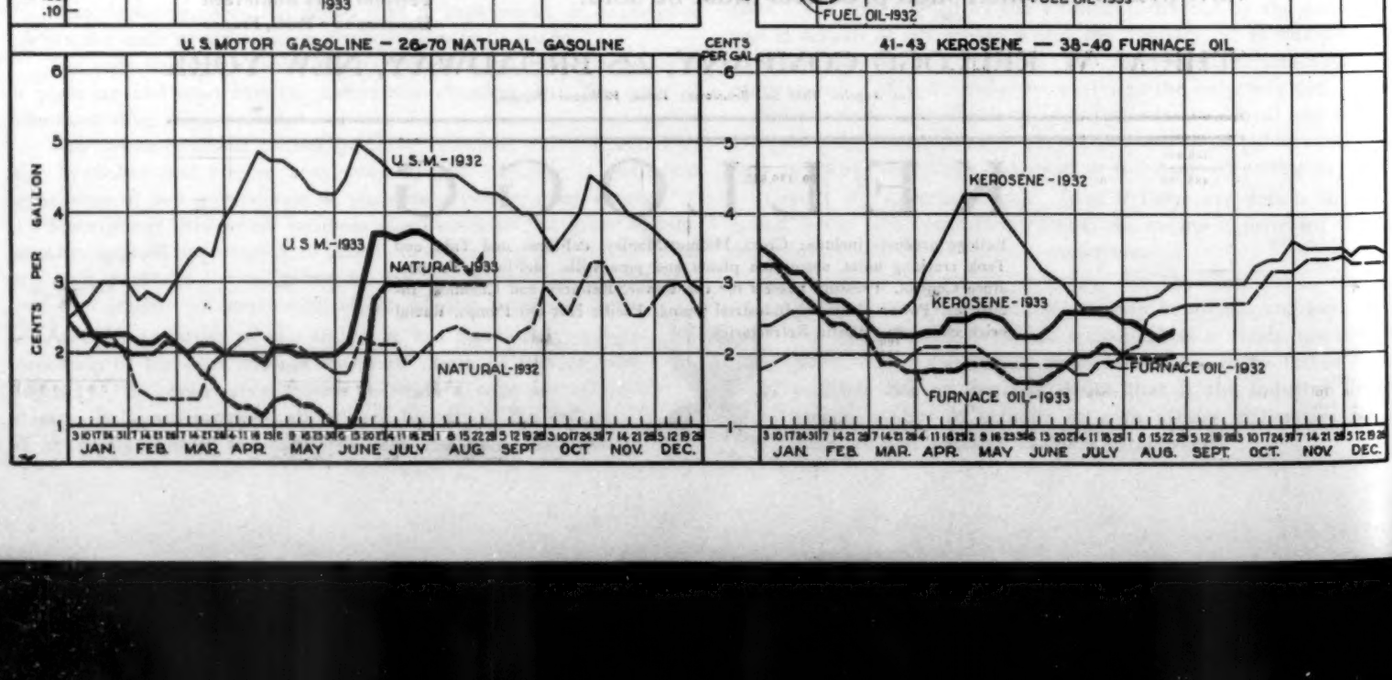
Chicago—Generally higher prices for refinery gasolines, natural gasolines, kerosene and distillate. New business in fuel oil and gas oil.

Pennsylvania—Slow movement in gasoline. Kerosene steady. Lubricants firm.

Gulf Coast—Gasoline prices advance. Good demand for fuel oil and gas oil.

California—Fuels and distillates strongest products in markets. Gasolines slow.

Representative Mid-Continent Quotations on Crude Oil and Refined Products Basis Oklahoma (Group 3)



market students are stressing the fact there are outstanding exceptions to the rule in which the manufacture of lubricating oils or other special products in the operation around which profits depend. In the case of low gravity crudes the production of distillates and heavy fuels is often more important from the standpoint of plant revenue than is the refining of gasoline. At this time the statistical situation of residual fuels, gas oils and distillates is probably stronger than that of gasoline. With the approach of the fall and winter season which means an expanding market for these products and a decline in the demand for gasoline there are those who feel that prices for these products will be a much more important factor in refinery operations than they have in the past. In brief many feel that attempting to control all operations on the basis of minimum prices for one product is fundamentally wrong, both in regard to refinery operations and the production of crude oil.

Another question has to do with the relationship of gasoline prices in Oklahoma and those in competitive areas scattered throughout the United States. Although the code does not specifically provide for establishing a price relationship between Oklahoma (Group 3) and other areas, it is assumed that it will be done. Naturally operators are much concerned as to what this price relationship will be. Unless this matter is handled carefully it will tend to widen one area's marketing territory at the expense of another and in effect make one refiner's losses pay for the profits of another located in a competitive refining area. Basically this problem has to do with differences in transportation costs between the points of crude oil production, refining and consumption. It always has been a problem of direct concern in the industry's markets and the introduction of gasoline pipe lines and the spread of water transportation in recent years has made the problem more complicated.

The foregoing are only a few of the angles of discussion that have developed in recent weeks since price control or fixing was offered to the oil business. Many are confident that to be successful the matter of control will spread to all products and include consumers' markets as well as refiners and producers. Those who favor the government plan answer all queries such as those that have been outlined in previous paragraphs by the statement that the government is providing the machinery for their solution through the appointment of a planning and coordination committee to consist of 15 members, of which 12 will be from the oil business. They contend that the main objective at this time is to "get the thing started" and later work out the necessary details. In the meanwhile they are hopeful that all markets can be advanced so that operations can be advanced to a generally profitable basis.

All Branches of Petroleum Industry to Meet in Accident Prevention Congress

All branches of the oil industry will be represented in the Petroleum Section at the twenty-second annual congress of the National Safety Council, to be held October 2 to 6 in the Stevens Hotel, Chicago. The program arranged by the program committee, of which J. L. Risinger is chairman, includes discussion of the best methods of preventing accidents in the producing, refining and marketing and transporting of oil. Not all places on the program have been filled. As arranged, it follows:

Tuesday Morning, October 3

GENERAL

9:45—Looking Backward as We Go Forward, General Chairman, C. L. Hightower.
10:00—The Accident Trend in the Petroleum Industry, J. W. Myers, secretary, Annuities and Benefits Committee, Standard Oil Co. (New Jersey), New York City.
10:15—Discussion.
10:25—Opportunities in Accident Prevention. (Speaker to be announced.)
10:50—Discussion.
11:00—What Are Our Health Problems in the Petroleum Industry? (Speaker to be announced.)
11:25—Discussion.
11:35—Election of officers.

Wednesday Morning, October 4

REFINING AND MARKETING

9:45—An Effective Accident Prevention Program for Refinery Operation, W. P. Reymond, Jr., safety engineer, Standard Oil Co. of Louisiana, Baton Rouge, La.
10:05—Discussion.
10:15—Problems in Handling Ethyl Fluid and Ethyl Gasoline, Dr. Robert A. Kehoe, Ethyl Gasoline Corp., Cincinnati, Ohio.
10:35—Discussion.
10:45—Controlling Accidents Among Marketing Department Employes, A. J. Martinson, safety supervisor, Union Oil Co. of California, Los Angeles.
11:05—Discussion.
11:15—Safety for the Public in Sales Operation, Capt. A. A. Nicholson, superintendent, Educational Division, Texas Co., New York City.
11:35—Discussion.

Thursday Morning, October 5

PRODUCTION

9:45—Moving in and Drilling the Well. (Speaker to be announced.)
10:05—Discussion.
10:15—Bringing in the Well and Disposal of Oil and Gas, L. F. Knox, safety inspector, General Petroleum Corp., Los Angeles.
10:35—Discussion.
10:45—Operation and Maintenance of Pipe Lines, H. L. Hershey, safety director, the East Ohio Gas Co., Cleveland, Ohio.
11:05—Discussion.
11:15—Preventing Injuries to Roustabouts and Pumpers. (Speaker to be announced.)
11:35—Discussion.

Thursday Luncheon, October 5, 12:30 o'Clock

Third Floor, Private Dining Room No. 2

1. Data on the 1933 Petroleum Section Contest, H. N. Blakeslee, secretary.

Gasoline and Naphtha

Most refiners in Oklahoma and other Mid-Continent refining areas were asking a low of 3⅝ cents to the trade for the third grade U. S. Motor on Monday and Tuesday. Several are maintaining nominal quotations as high as 4 cents. The low on middle octane material which is available from more refiners than it was 30 to 60 days ago is 4 cents in Oklahoma with the low on the premium grade of 4¼ cents. The same advances materialized in the 60-62, 400 endpoint grades. Quotations on the higher gravity gasolines and blending naphthas were generally unchanged.

Reports widely circulated in the trade the first of the week were to the effect that the government would establish a minimum base price around 5¾ cents for 60-64 octane U. S. Motor gasoline. This would represent an advance of 1¾ cents from the present low for this grade. This price, it is said, was based on the average prices for U. S. Motor gasoline for a five-year period in Oklahoma ending January 1, 1933. It was stated that this five-year average was used in arriving at the constant of 18.5 in establishing the price relationship between crude oil and gasoline provided for in the code. (See tables, Annual Number of The Oil and Gas Journal, January 26, 1933, page 64.) Should this prediction materialize as previously explained it is certain that it will not be satisfactory to all of the Mid-Continent producers and refinery operators.

Kerosene and Distillate

All grades of distillate advanced from one-eighth to one-fourth cent during the week. Those in close touch with this market state there is no danger of immediate shortage of these products used as furnace oils but they predict a scarcity and higher price levels during the late fall and winter if the government curtailment program for crude oil production should result in a material reduction in refinery operations. Prices ranged from 1⅜ cents for the straw color material to 2¼ cents for prime white. These prices are for products in most cases under 175 flash.

While not actively traded the tendency for the past week was to advance kerosene prices. The prices ranged up from 2⅜ cents for the 41-43 water white grade.

Fuels and Gas Oils

Industrial gas oils and those used for cracking stock have advanced to a low of 1⅜ cents with several sales reported during the week at 1½ and 1⅝ cents.

(Continued on Page 32)

American Petroleum Institute Weekly Refinery Statistics

Figures below reported for week by American Petroleum Institute. (1) Per cent refinery capacity represented. (2) Daily average crude runs to stills. (3) Total motor fuel stocks. (4) Gas oil and fuel oil stocks. All figures in 42-gallon barrels.

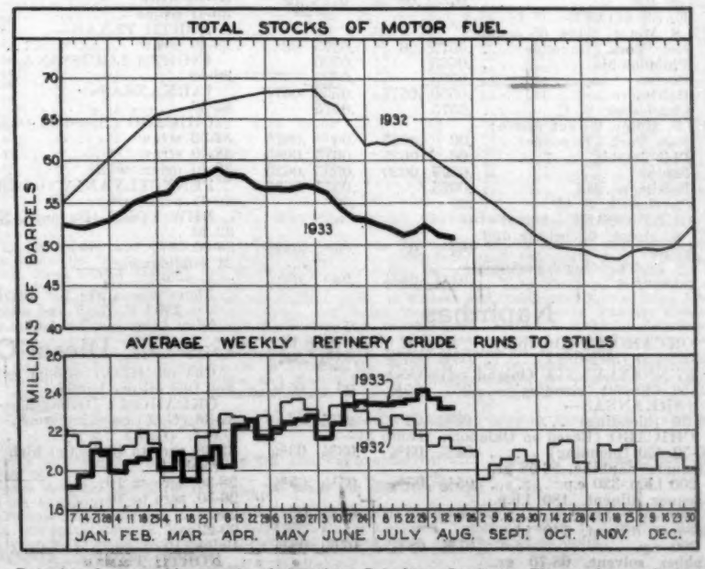
Week Ending August 19, 1933, Compared to Week Ago

	Week Ending Aug. 19, 1933				Week ending August 12, 1933			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	526,000	14,312,000	8,587,000	100.0	495,000	14,209,000	8,404,000
Appalachian	92.6	113,000	2,066,000	875,000	92.6	95,000	2,023,000	819,000
Ind., Ill., Ky.	97.3	351,000	6,910,000	4,966,000	97.3	347,000	7,265,000	4,787,000
Okla., Kans., Mo.	82.1	264,000	4,956,000	3,862,000	82.1	268,000	4,884,000	3,863,000
Inland Texas	58.7	82,000	1,315,000	1,819,000	58.7	80,000	1,407,000	1,883,000
Texas Gulf	98.0	470,000	5,340,000	7,392,000	98.0	433,000	5,256,000	7,447,000
Louisiana Gulf	100.0	127,000	1,403,000	1,956,000	100.0	116,000	1,392,000	1,969,000
N. La. and Ark.	92.6	61,000	265,000	616,000	92.6	59,000	245,000	574,000
Rocky Mtn.	75.8	35,000	961,000	759,000	75.8	33,000	995,000	771,000
California	96.9	456,000	13,910,000	99,846,000	96.9	408,000	13,591,000	100,016,000
Total U. S.	92.2	2,488,000	51,438,000	130,673,000	92.2	2,339,000	51,167,000	130,533,000

Total Motor Fuel Stocks Bureau of Mines Basis 53,440,000 Bbls.

Week Ending August 19, 1933, Compared to Year Ago

	Week Ending Aug. 19, 1933				Week ending August 20, 1932			
	(1)	(2)	(3)	(4)	(1)	(2)	(3)	(4)
East Coast	100.0	526,000	14,312,000	8,587,000	100.0	472,900	17,952,000	8,507,000
Appalachian	92.6	113,000	2,066,000	875,000	91.8	86,600	2,168,000	1,014,000
Ind., Ill., Ky.	97.3	351,000	6,910,000	4,966,000	93.9	284,400	7,718,000	4,349,000
Okla., Kans., Mo.	82.1	264,000	4,956,000	3,862,000	89.6	223,100	4,967,000	3,366,000
Inland Texas	58.7	82,000	1,315,000	1,819,000	76.5	101,900	1,499,000	2,816,000
Texas Gulf	98.0	470,000	5,340,000	7,392,000	99.8	346,300	4,535,000	9,018,000
Louisiana Gulf	100.0	127,000	1,403,000	1,956,000	100.0	93,100	1,673,000	4,626,000
N. La. and Ark.	92.6	61,000	265,000	616,000	97.0	41,600	219,000	640,000
Rocky Mtn.	75.8	35,000	961,000	759,000	83.4	49,100	1,005,000	576,000
California	96.9	456,000	13,910,000	99,846,000	96.7	434,300	15,445,000	99,685,000
Total U. S.	92.2	2,488,000	51,438,000	130,673,000	95.1	2,128,300	57,374,000	134,100,000



Data based on weekly reports of American Petroleum Institute. Figures for week just ended not shown in graph but are included in accompanying table

REFINERY AND CRUDE PRICES

Quotations on refined products are for interstate or export movement except as otherwise noted

EXCLUSIVE OF TAXES

The following quotations are exclusive of the Federal excise taxes of 1½ cents a gallon on gasoline and 4 cents on lubricating oils, which became effective June 17, 1933.

Refinery Gasolines

	Aug. 22		Aug. 15	
OKLAHOMA (Group 3)—				
*U. S. Motor grades:				
Regular	.04	.04½	.03⅞	.04½
Premium	.04¼	.04¾	.04¼	.04¾
Third grade	.03⅝	.03½	.03⅛	.03⅝
60-62 400 grades:				
Regular	.04½	.04¼	.04	.04½
Premium	.04½	.05	.04½	.05
Third grade	.03½	.04	.03¼	.03½
64-66 390	.03⅝	.04	.03½	.04
64-66 375	.04	.04¼	.04	.04¼
68-70 350	.04¼	.04¾	.04¼	.04¾
NORTH TEXAS—				
U. S. Motor grades:				
Regular	.04	.04¼	.03⅞	.04¼
Premium	.04¼	.04½	.04¼	.04½
Third grade	.03⅝	.03½	.03⅛	.03½
60-62 400	.03½	.03¾	.03¼	.03¾
64-66 390	.03¾	.04	.03¾	.04
64-66 375	.04	.04¼	.04	.04¼
64-66 360	.04¼	.04¾	.04¼	.04¾
†NORTH LOUISIANA—				
U. S. Motor grades:				
Regular	.04¼	.04½	.04¼	.04½
Premium	.04½	.04¾	.04½	.04¾
Third grade	.03⅝	.04	.03½	.04
60-62 400	.03¾	.04	.03¾	.04
†ARKANSAS—				
U. S. Motor grades:				
Regular	.04¼	.04½	.04¼	.04½
Premium	.04½	.04¾	.04½	.04¾
Third grade	.03½	.03¾	.03½	.03¾
CHICAGO (Based on Oklahoma Group 3)—				
U. S. Motor grades:				
Regular	.04⅛	.04⅜	.03⅞	.04⅛
Premium	.04⅝	.04⅞	.04⅜	.04⅝
Third grade	.03¾	.03½	.03¼	.03½
60-62 400	.03½	.03⅝	.03⅜	.03½
64-66 375	.03⅝	.03¾	.03½	.03¾
68-70 360	.03¾	.04	.03¾	.04
Aviation fighting grade	.04½	.05	.04¼	.04¾

***Octane Ratings**—The following octane ratings apply to the three grades of U. S. Motor gasoline: Regular 60-64 octane number; premium, 65 and above octane number; third grade, 59 and below octane number. Octane ratings determined by C.F.R. Motor Method.

†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
U. S. Motor	.05¼	.05⅜	.05¼	.05⅜
60-62 400	.05⅜	.05½	.05½	.05⅝
64-66 375	.05¾	.06	.05¾	.06
68-70 350	.06⅛	.06⅜	.06¼	.06½
CALIFORNIA (domestic movement)—				
54-58 U. S. Motor	.06½	.07½	.06¼	.07½
58-60 400	.07	.08	.07	.08
EAST COAST—				
U. S. Motor, below 65 octane:				
New York (Bayonne)	.0575	.06	.0575	.06
Philadelphia	.0565		.0590	
Boston	.0595		.0595	
Baltimore	.0550	.0575	.0550	.0575
Charleston, S. C.	.0575		.0575	
U. S. Motor, 65 and above:				
New York (Bayonne)	.06	.0625	.06	.0625
Philadelphia	.06	.0625	.0615	.0625
Boston	.0595	.0620	.0595	.0620
Baltimore, Md.	.0625		.0575	.0625
Charleston, S. C.	.06		.06	
GULF COAST (domestic)—				
U. S. Motor, 65 octane and above	.04¾	.05	.04¾	.04⅞
U. S. Motor, below 65 octane number	.04¼	.04½	.04	.04½

Naphthas

OKLAHOMA (Group 3)—	Aug. 22		Aug. 15	
50-52 450 (blending)	.03⅝	.03½	.03¼	.03½
PENNSYLVANIA (inland refineries)—				
50-54 430-450 (blending)	.05	.05¼	.05	.05¼
†ARKANSAS—				
48-50 (blending)	.03¾	.04	.03¾	.04
CHICAGO (Based on Oklahoma Group 3)—				
50-52 450 (blending)	.03⅜	.03⅝	.03⅜	.03⅝
Cleaners' naphtha, 56-58 gr., 200 i.b.p.-320 e.p.	.05½	.05¾	.05½	.05¾
Lacquer diluent, 180 i.b.p.-250 e.p.	.06¾	.07	.06¾	.07
Lacquer diluent, 140 i.b.p.-200 e.p.	.07¾	.08¼	.07¾	.08¼
Rubber solvent, 68-70 gr., 100 i.b.p.-300 e.p.	.05½	.05¾	.05½	.05¾
Stoddard solvent, 300 i.b.p.-410 e.p., over 83° flash	.05	.05¼	.05	.05¼
Pet. thinner, 290-300 i.b.p.-415 e.p., over 83° flash	.04½	.04¾	.04½	.04¾
V.M.&P. naphtha, 56-58 gr., 190-200 i.b.p.-330 e.p.	.05¼	.05½	.05¼	.05½
Petroleum spirits	.04¼	.04½	.04¼	.04½

Natural Gasolines

	Aug. 22		Aug. 15	
OKLAHOMA (Group 3)—				
Grade 18-55	.03⅝	.03¾	.03½	
Grade 26-70	.03	.03⅛	.03	
Grade 30-70	.02⅞	.03	.02⅞	
Low vapor pressure grades:				
15 lb. v.p. (max.)	.03¾	.04	.03¾	.04
11 lb. v.p. (max.)	.04¼	.04½	.04¼	.04½
NORTH TEXAS—				
Grade 18-55	.03⅝	.03¾	.03½	
Grade 26-70	.03		.02⅞	.03
Grade 30-70	.02⅞		.02⅞	
Low vapor pressure grades:				
15 lb. v.p. (max.)	.03¾	.04	.03¾	.04
11 lb. v.p. (max.)	.04¼	.04½	.04¼	.04½
NORTH LOUISIANA—				
Grade 26-70	.03¼	.03½	.03¼	.03½
CALIFORNIA—				
75-78 375	.05¼	.06¼	.05¼	.06½

Kerosenes

(All kerosenes water white)

	Aug. 22		Aug. 15	
OKLAHOMA (Group 3)—				
41-43	.02⅜	.02⅝	.02¼	.02½
42-44	.02½	.02¾	.02⅜	.02⅝
NORTH TEXAS—				
40-41	.02¼	.02½	.02⅛	.02¼
41-43	.02⅜	.02½	.02¼	.02½
†NORTH LOUISIANA—				
41-43	.02¾	.03	.02¾	.03
42-44	.03	.03¼	.03	.03¼
†ARKANSAS—				
41-43	.02¾	.03	.02¾	.03
PENNSYLVANIA (inland refineries)—				
45	.04¼	.04⅜	.04¼	.04⅜
46	.04¼	.04½	.04⅜	.04½
47	.04½	.04¾	.04½	.04¾
CHICAGO (Based on Oklahoma Group 3)—				
41-43	.02½	.02⅝	.02⅜	.02½
42-44	.02⅝	.02¾	.02½	.02⅝
*CALIFORNIA—				
38-40 high burning test	.04	.04½	.04	.04½
NEW YORK (Bayonne, N. J.)—				
41-43	.05	.05½	.05	.05¼
GULF COAST (domestic)—				
41-43 water white	.04		.04	

*For Pacific Coast consumption.

†For Arkansas, Louisiana and Mississippi delivery.

Furnace Oils and Tractor Fuels

	Aug. 22		Aug. 15	
OKLAHOMA (Group 3)—				
32-36 straw	.02		.01⅞	.02
36-38 straw	.01⅞	.02	.01¾	.01⅞
38-40 straw	.02		.01⅞	.02
39-41 prime	.02½	.02¼	.02⅛	.02¼
NORTH TEXAS—				
38-40 straw	.01⅞	.02	.01¾	.02
†NORTH LOUISIANA—				
36-40	.02⅜	.02½	.02⅜	.02½
†ARKANSAS—				
32-36	.02⅜	.02½	.02⅜	.02½
CHICAGO (Based on Oklahoma Group 3)—				
32-36 straw	.02	.02⅛	.01¾	.02
38-40 straw	.02⅛	.02¼	.01⅞	.02¼
38-40 prime white	.02¼	.02⅜	.02	.02¼
PENNSYLVANIA (inland refineries)—				
40-41 prime white	.03¾	.04	.03¾	.04
NEW YORK (Bayonne, N. J.)—				
32-36	.04¼		.04	
36-40	.0525		.05	
21 (industrial)	.03½		.03½	

Above prices are for distillate oils of zero cold test under 190° F. flash and good odor.

†For Arkansas, Louisiana and Mississippi delivery.

Gas Oil, Diesel Oil and Fuel Oil

Gas oil (G.O.) quoted per gallon basis; Diesel oil and fuel oil per barrel.

	Aug. 22		Aug. 15	
OKLAHOMA (Group 3)—				
32-36 (G.O.) cracking stock	.01⅜	.01½	.01¼	.01⅜
U.G.I. (G.O.)	.01⅜	.01½	.01¼	.01⅜
32-36, zero to 15 (G.O.) high flash	.01⅝	.01¾	.01½	.01¾
28-30, zero to 10	.70	.75	.70	.75
26-30, zero to 10	.65	.70	.65	.70
24-26	.50	.55	.50	.55
20-22	.45	.50	.45	.50
Below 16	.40	.45	.40	.45
NORTH TEXAS—				
32-36 (G.O.) industrial	.01¼	.01⅜	.01¼	
22-26	.45	.50	.45	.50
Below 20	.40	.45	.40	.45
†NORTH LOUISIANA—				
32-36 (G.O.) zero	.02½		.02½	
14-16	.45		.40	.45
†ARKANSAS—				
30-32 (G.O.) zero	.02½		.02½	
14-16	.40	.45	.40	
CHICAGO (Based on Oklahoma Group 3)—				
32-36 (G.O.) industrial	.01½	.01⅝	.01⅜	.01½
28-30 (zero)	.70	.82½	.70	.80
26-28 (zero)	.65	.75	.65	.75
22-26 (zero)	.60	.65	.60	.65
18-22 (zero)	.55	.60	.55	.60
Below 18	.40	.45	.40	.45

Note: Fuel oils of more than 40 cold test generally 5 to 15 cents per barrel less in all areas than shown in above tables.

†For Arkansas, Louisiana and Mississippi delivery.

PENNSYLVANIA (inland refineries)—				
36-40	.03⅝		.03⅝	
CALIFORNIA—				
30-34 (G.O.) per bbl.	.85	.90	.85	.90
27 plus Diesel	.80	.90	.80	.90
15-19 bunker (at tidewater)	.50	.60	.50	.60
15-19 (cargo lots)	.45	.55	.45	.55
15-19 (tank cars)	.42½	.50	.42½	.50
GULF COAST—				
28-30 (G.O.)	.03		.03	
28-30 Diesel	1.60		1.60	
Bunker C (bulk cargoes)	.60		.60	
Bunker C (bunkers)	.70		.70	
NEW YORK (Bayonne, N. J.)—				
28 plus (G.O.)	.04		.04	
*28-30 Diesel	1.75		1.75	
26-30 Diesel (tank cars)	.04		.04	
‡Bunker C	.80	.85	.80	.85

*Lighterage 6½ cents per barrel.

‡Contract price at New York Harbor to ocean-going steamships only.

Petroleum Coke*

Prices per ton f.o.b. refineries in Chicago area.

Breeze (screenings)	5.25		4.75	
Still runs	6.25		5.75	
Lump and egg	7.00	7.25	6.75	

*Refineries will absorb freight to 80 cents a ton.

Neutral Oils

(Viscosity at 100° F. and color)

	Aug. 22		Aug. 15	
OKLAHOMA (Group 3)—				
Zero to 10 Cold Test:				
150-3	.07¼	.07½	.07¼	.07½
180-3	.08½	.08¾	.08½	.08¾
180-4	.08¼	.08½	.08¼	.08½
200-3	.09	.09¼	.09	.09¼
200-4	.08¾	.09	.08¾	.09
240-3	.11	.11⅛	.11	.11⅛
240-4	.10¾	.11	.10¾	.11
280-3	.12	.12¼	.12	.12¼
280-4	.11½	.11¾	.11½	.11¾
300-3½	.12¾	.13	.12¾	.13
350-3½	.13¾	.14	.13¾	.14
400-4	.14¾	.15	.14¾	.15
500-4½	.15¾	.16	.15¾	.16
100-2 paraffin oil	.05¼	.05½	.05¼	.05½
15-30 Cold Test:				
200-3	.08¼	.08½	.08¼	.08½
200-4	.08	.08¼	.08	.08¼
240-3	.10¼	.10½	.10¼	.10½
240-4	.10	.10½	.10	.10¼
280-3	.11¼	.11½	.11¼	.11½
280-4	.11	.11¼	.11	.11¼
PENNSYLVANIA—				
150 vis., No. 3, 400-405:				
Zero pour test	.17	.17½	.17¼	.17½
10 pour test	.16½	.16¾	.15¾	.16
15 pour test	.15	.15¼	.15	.15¼
25 pour test	.14¼	.14½	.14¼	.14½
180 vis., No. 3, 25 pour test	.16½	.16¾	.16½	
200 vis., No. 3:				
Zero pour test	.21¼	.21½	.21¼	.21½
10 pour test	.20¼	.20½	.20¼	.20½
15 pour test	.19¼	.19½	.19¼	.19½
25 pour test	.18½	.18¾	.19	
GULF COAST—				
Pale Oils:				
100-2-2½	.04½		.04½	
200-3	.05¼	.05½	.05¼	.05½
300-3	.06¼	.06½	.06¼	.06½
500-3½	.08½	.08¾	.08½	.08¾
750-3½	.09¼	.09¾	.09¼	.09¾
1,200-3½	.10	.10½	.10	.10½
2,000-4	.11	.11¼	.11	.11¼
Red Oils:				
200-5-6	.04½		.04½	
300-5-6	.05¼	.05½	.05¼	.05½

500-5-6	.07¼	.07½	.07¼	.07½
750	.08¼	.08½	.08¼	.08½
1,200-5-6	.09	.09½	.09	.09½
2,000-6 plus	.10	.10¼	.10	.10¼
CALIFORNIA—				
Pale Oils:				
100-2½-3	.09	.09½	.09	.09½
200-2½-3	.09½	.10	.09½	.10
300-3-3½	.10½	.11	.10½	.11
350-3-4	.11	.11½	.11	.11½
400-3-4	.11½	.11¾	.11½	.11¾
450-3-4	.11¾	.12	.11¾	.12
550-3-4	.12	.12½	.12	.12½
Red Oils				
200-4-5	.09½	.10	.09½	.10
300-5-6	.10½	.11	.10½	.11
350-5-6	.11	.11½	.11	.11½
400-5-6	.11½	.11¾	.11½	.11¾
450-5-6	.11¾	.12	.11¾	.12
500-5-6	.12	.12¼	.12	.12¼
600-5-6½	.12¼	.12½	.12¼	.12½
700-6½ plus	.12½	.12¾	.12½	.12¾
750-6½ plus	.12¾	.13	.12¾	.13
900-6½ plus	.13	.14½	.13	.14½

Bright and Steam Refined Stocks

OKLAHOMA (Group 3)—	Aug. 22		Aug. 15	
630 light green	.06¾	.07¾	.06¾	.07¾
600 light green S.R.	.06¼	.07¼	.06¼	.07¼
600 dark green S.R.	.04¾	.05¾	.04¾	.05¾
Bright Stocks:				
190-200 D	.23½	.24½	.23½	.24½
150-160 D, 0-10	.21¾		.21¾	
150-160 D, 10-25	.21¼		.21¼	
150-160 D, 25-40	.20¾		.20¾	
150-160 E	.19¾		.19¾	
PENNSYLVANIA—				
600 S.R.	.14¼	.14½	.14¼	.14½
650 S.R.	.16½	.16¾	.16½	.16¾
600 Pennsylvania flash	.17½	.17¾	.17½	.17¾
650 D filtered	.22½	.22¾	.22½	.22¾
600 E filtered	.18	.18¼	.18	.18¼
Pennsylvania Grade bright stock:				
No. 8 color, 145-50 vis., at 210; 540-550 flash:				
10 pour test	.27¼	.27½	.27¼	.28
15 pour test	.25½	.26	.25½	.26
25 pour test	.24½	.25	.24½	.25

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—	Aug. 22		Aug. 15	
124-126 white crude scale	.03	.03¼	.03	.03¼
PENNSYLVANIA—				
122-124	.03¼	.03⅜	.03125	.0325
124-126	.03⅜	.03½	.0325	.03375
NEW YORK HARBOR—				
120-122 (a.m.p. basis)	.0350		.0350	
125-127	.0375		.04	
130-132	.0420		.0420	
133-135	.0480		.0480	
135-137	.05		.05	
Petrolatum in barrels in carload lots:				
Dark green	.02	.02⅛	.01875	
Amber	.02¼	.02⅝	.02	
Extra amber	.02⅜		.02⅜	
Lily white	.06	.06¼	.05½	
Snow white	.07	.07¼	.06½	
Cream	.04¼	.04½	.0450	
CHICAGO (f.o.b. switching district)*—				
122-124	.0390	.0400	.0390	.0400
125-127	.0415	.0425	.0415	.0425
127-129	.0430	.0440	.0430	.0440
130-132	.0490	.0500	.0490	.0500
132-134	.0515	.0525	.0515	.0525

*Cents per pound on carlot orders in burlap bags of 225 lbs. approx.
Add 3° F. for a.m.p.

Export Prices

GASOLINE

GULF COAST—	Aug. 22	Aug. 15
U. S. Motor	.0425	.04¼

60-62 400	.04⅜	.04½	.04⅜	.04½
61-63 390	.04⅜	.04½	.04⅜	.04½
64-66 375	.04½	.04¾	.04⅝	.04½
LOS ANGELES, CALIF.—				
U. S. Motor, 53-55 437 e.p.	.04	.04½	.04	.04½
U. S. Motor, 65 octane	.04½	.04¾	.04½	.04¾
U. S. Motor, 67 octane	.05		.05	
U. S. Motor, 69 octane	.05¼		.05¼	
58-60 400 endpoint gasoline	.04½	.05	.04½	.05
KEROSENE				
GULF COAST—				
41-43 prime white	.04¼		.04	.04¼
41 water white	.04½		.04¼	.04½
LOS ANGELES, CALIF.—				
41-43 water white	.03¾	.04¼	.03¾	.04¼
LUBRICANTS				
NEW YORK (f.a.s. in bbls.)—				
600 Warren E	.24½		.24	
600 S.R. unfiltered	.20¾		.20¼	
650 S.R. unfiltered	.22½		.22½	
600 flash S.R.	.24		.23½	
630 flash S.R.	.29		.28½	
Bright stock, No. 8 color	.31		.30½	
Bright stock, No. 6½ color dil.	.30½		.30	
NEUTRALS				
NEW YORK—Pale Engine Oil, Bulk (vis. at 100)—				
230-3¾	.10¾		.10¾	
180-3½	.10½		.10½	
100-2¼	.06		.06	
Red Engine Oil, Bulk (vis. at 100):				
300-6½	.10½		.10½	
250-6	.09½		.09½	
200-6	.08¾		.08¾	
PARAFFIN WAX (Fully Refined)				
NEW YORK (prices per pound)—				
123-125 a.m.p.	.03⅞	.04	.03875	
125-127 a.m.p.	.03⅞	.04	.03875	
130-132 a.m.p.	.0440	.0450	.04	
133-135 a.m.p.	.0495	.05	.0495	
135-137 a.m.p.	.05	.0520	.05	

Crude Oil Prices

Oklahoma, Kansas, North Central and East Central Texas

East Texas (see note)	$.50
Stratman, Kans. (July 17, 1933)†	.62
Corsicana (heavy) (June 17, 1933)*	.30
Other fields	(See gravity table)

Effective June 17, Stanolind Crude oil Purchasing Co., 50 cents; June 19, Texas Co., Tide Water Oil Co., Humble Oil & Refining Co., Gulf Pipe Line Co.; August 1, Sinclair Prairie Oil Marketing Co., Empire Oil & Refining Co.; August 2, Magnolia Petroleum Co., Sun Oil Co.; August 3, Panola Pipe Line Co.

*Magnolia Petroleum Co. †Eldorado Refining Co.

West Texas

Crane, Upton, Crockett, Howard, Glasscock, Mitchell, Ector, Winkler and Pecos Counties	(See note)
Lea County, N. Mex. (June 19, 1933)	$.30
Toborg, Pecos County (June 20, 1933)*	.25
Jones and Fisher Counties	See gravity table

Note—Effective August 2, Magnolia Petroleum Co., 30 cents. Effective June 19, Texas Co., Gulf Pipe Line Co., Humble Oil & Refining Co., 30 cents. Lea County, effective June 19, Texas Co. and other purchasers, 30 cents.

*Shell Petroleum Corp.

Gulf Coast

Grade A and Grade B specifications discontinued by leading buyers	(See gravity table)
Tomball (June 19, 1933)*	$.65
Tomball (Aug. 2, 1933)†	.65
Livingston (June 20, 1933)†	.50
Refugio, light	(See gravity table) (Gulf Coast)*
Refugio, heavy (June 19, 1933)*	.45
Markham and High Island	(See gravity table) (Gulf Coast)
Conroe	(See gravity table)*

*Humble Oil & Refining Co., Markham by Texas Co., and High Island by Yount Lee Oil Co. †Shell Petroleum Corp. ‡Magnolia Petroleum Co.

South Central and Southwest Texas

Darst Creek (June 19, 1933)	(See note)
Mirando (June 19, 1933)	(See note)
Luling (Aug. 2, 1933)	$.35
Pettus (June 19, 1933)	.55
Salt Flat (June 19, 1933)	.40
Lytton Springs (Aug. 2, 1933)	.45
Duval County (June 22, 1933)	.40
Saxet (June 19, 1933)	.45

Note—Effective August 2, Magnolia Petroleum Co., 40 cents in Darst Creek and Mirando; Darst Creek, Gulf Pipe Line Co. and Humble Oil & Refining Co., 40 cents; effective June 22, Texas Co., Humble Oil & Refining Co., 40 cents. Pettus and Salt Flat by Humble and Gulf companies; Luling and Lytton Springs, by Magnolia Petroleum Co. Duval and Saxet, by Texas Co.

North Louisiana and Arkansas

Smackover, Ark. (all grades)	(See note)
Urania, La. (Jan. 20, 1933)	$.25
East El Dorado, Ark. (June 19, 1933)	(See note)
Other fields	(See gravity table)

Note—Smackover, all grades, effective June 19, by Texas Co., 30 cents; June 19, Standard Oil Co. of Louisiana, 30 cents; June 20, Magnolia Petroleum Co., 30 cents; Gulf Refining Co., 30 cents; Louisiana Oil Refining Corp., 30 cents. Urania Field posted by Louisiana Oil Refining Co. and H. L. Hunt, Inc., East El Dorado, effective June 20, Magnolia Petroleum Co., 30 cents; Gulf Refining Co., 30 cents; Phil Tax Oil Co., effective June 19, posted 20 cents for all grades in Union and Ouachita Counties, Arkansas.

Eastern States

SOUTH PENN OIL CO.
(Effective August 11, 1933)

Pennsylvania Grade Oil in National Transit Lines (Bradford Field)	$2.10
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	1.77
Penna Grade Oil in Eureka Pipe Lines	1.72
Penna Grade Oil in Buckeye Pipe Line Lines	1.57
Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Aug. 4, 1933)	.85

TIDE WATER PIPE CO.
(Effective August 11, 1933)

Bradford, Pa.	$2.10
Allegany, N. Y.	2.10

PENNZOIL CO.
(Effective August 11, 1933)
Pennsylvania Grade Oil in National Transit Lines:

Group A Includes Cochran, Franklin, Hamilton and Doolittle districts.	$2.02
Group B Includes Titusville district.	2.01
Group C Includes Turkey and Tidioute districts.	2.00
Group D Includes Bear Creek and Porkey districts.	1.99
Group E Includes Rideneau, Bull Creek, Rough	1.75

(Continued on Page 31)

Crude Oil Gravity Table

	North Central and East Central Texas	Kansas, Oklahoma, North Central and East Central Texas	North Louisiana and Arkansas	Gray County Texas	Gray County Texas	Carson and Hutchinson Counties, Texas	Carson and Hutchinson Counties, Texas	Conroe, Texas	Salt Creek, Wyoming	Gulf Coast, Texas and Louisiana	Gulf Coast, Texas and Louisiana	Caddo, Louisiana	Homer, Louisiana	Rhaynesville, Louisiana	Sabine, De Soto, Sarepta, Carterville, Louisiana	El Dorado, Arkansas
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Below 20	....	....	....	....	....	....	....	....	....	$.32	$.32	....	....	....	....	....
20-20.9	....	....	....	....	....	....	....	....	....	.34	.34	....	....	....	....	....
21-21.9	....	....	....	....	....	....	....	....	....	.36	.36	....	....	....	....	....
22-22.9	....	....	....	....	....	....	....	....	....	.38	.38	....	....	....	....	....
23-23.9	....	....	....	....	....	....	....	....	....	.40	.40	....	....	....	....	....
24-24.9	....	....	....	....	....	....	....	....	....	.42	.42	....	....	....	....	....
Below 25	....	$.30	....	....	....	....	....	....	....	....	....	....	....	....	....	....
25-25.9	....	.32	....	....	....	....	....	....	....	.44	.44	....	....	....	....	....
26-26.9	....	.34	....	....	....	....	....	....	....	.46	.46	....	....	....	....	....
27-27.9	....	.36	....	....	....	....	....	....	....	.48	.48	....	....	....	....	....
28-28.9	....	.38	....	....	....	....	....	....	....	.50	.50	....	....	....	....	....
Below 29	$.28	....	$.28	....	....	....	....	....	$.38	....	....	$.36	$.32	$.29	$.35	$.37
29-29.9	.30	.40	.30	....	....	....	....	....	.40	.52	.52	.38	.34	.31	.37	.39
30-30.9	.32	.42	.32	$.30	....	$.30	....	....	.42	.54	.54	.40	.36	.33	.39	.41
31-31.9	.34	.44	.34	.32	....	.32	....	....	.44	.56	.56	.42	.38	.35	.41	.43
32-32.9	.36	.46	.36	.34	....	.34	....	....	.46	.58	.56	.44	.40	.37	.43	.45
33-33.9	.38	.48	.38	.36	....	.36	....	....	.48	.60	.57	.46	.42	.39	.45	.47
34-34.9	.40	.50	.40	.38	....	.38	....	....	.50	.62	.58	.48	.44	.41	.47	.49
Below 35	....	....	....	....	$.34	....	$.29	....	....	....	....	....	....	....	....	....
35-35.9	.42	.52	.42	.40	.36	.36	.31	$.59	.52	....	.59	.40	.46	.43	.49	.51
36-36.9	.44	.54	.44	.42	.38	.32	.33	.61	.54	....	.60	.42	.48	.45	.51	.53
37-37.9	.46	.56	.46	.44	.40	.34	.35	.63	.56	....	.61	.44	.50	.47	.53	.55
38-38.9	.48	.58	.48	.46	.42	.36	.37	.65	.58	....	.62	.46	.52	.49	.56	.57
39-39.9	.50	.60	.50	.48	.44	.38	.39	.67	.60	....	.63	.48	.54	.51	.57	.59
40 and over	.52	.62	.52	.50	.46	.40	.41	.69	.62	....	.64	.50	.56	.53	.59	.61

Column 1—Effective June 19, 1933, Humble Oil & Refining Co., Texas Co., Gulf Pipe Line Co. Effective August 1, Sinclair Prairie Oil Marketing Co.

Column 2—Effective July 6, Carter Oil Co. in Kansas and Oklahoma; Stanolind Crude Oil Purchasing Co. in Kansas, Oklahoma and North Central and East Central Texas; Tide Water Oil Co. in Oklahoma. July 8, Texas Co. in Oklahoma; Shell Petroleum Corp. in Kansas and Oklahoma; Mid-Continent Petroleum Corp., Rock Island Refining Co., H. F. Wilcox Oil & Gas Co., Champlin Refining Co., Bell Oil & Gas Co., Johnson Refining Co., Eason Oil Co., Deep Rock Oil Corp., Cushing Refining Co., Globe Refining Co., Yale Oil Corp., in Oklahoma. July 12, Gypsy Oil Co. in Kansas and Oklahoma. August 1, Sinclair Prairie Oil Marketing Co. in Kansas and Oklahoma; Empire Pipe Line Co. in Kansas and Oklahoma. August 2, Continental Oil Co. in Kansas, Oklahoma and North Texas; Skelly Oil Co. in Kansas; Philtex Oil Co. in Kansas and Oklahoma; Kanotex Refining Co. in Kansas; Barnsdall Refineries, Inc., in Oklahoma. August 3, Magnolia Petroleum Co. in Oklahoma, North Central Texas and East Central Texas; White Eagle Oil & Refining Co. in Kansas. August 1, Vickers Refining Co. in Kansas; Eldorado Refining Co. in Kansas. August 3, Pure Oil Co. in Oklahoma. August 1, Dickey Refining Co. in Kansas.

Column 3—Effective June 19, Texas Co., Gulf Refining Co., Louisiana Oil & Refining Co. Effective June 20, Magnolia Petroleum Co. Effective June 19, Stanolind Oil & Gas Co. in Pine Island district, Louisiana, and Marion County, Texas, posted below 32 gravity, 36 cents, with 2-cent spread upward to 40 gravity and over, 50 cents. For Standard Oil Co. of Louisiana prices see Columns 13 to 16.

Column 4—Effective August 2, Philtex Oil Co.

Column 5—Effective June 19, Humble Oil & Refining Co., Gulf Pipe Line Co. and Texas Co. August 1, Sinclair Prairie Oil Marketing Co. August 3, Magnolia Petroleum Co.

Column 6—Effective August 3, Philtex Oil Co.

Column 7—Effective June 19, Humble Oil & Refining Co., Gulf Refining Co. and Continental Oil Co. August 1, Sinclair Prairie Oil Marketing Co. August 3, Magnolia Petroleum Co.

Column 8—Effective June 19, Humble Oil & Refining Co. Effective June 22, Texas Co. and Tide Water Oil Co.

Column 9—Effective June 17, Stanolind Oil & Gas Co.

Column 10—Effective June 17, Sinclair Prairie Oil Marketing Co. Effective June 19, Humble Oil & Refining Co. and Gulf Pipe Line Co.

Column 11—Effective June 19, Texas Co. Effective June 20, Magnolia Petroleum Co. in Lockport, Louisiana, while in Cameron Meadows and Iowa, Louisiana, it posted below 20 gravity, 32 cents, with 2-cent differential upward to 34 and above at 52 cents.

Columns 12 to 16—Effective June 19, Standard Oil Co. of Louisiana.

(California Crude Oil Prices on Page 31)

TANK WAGON MARKETS

Quotations for gasoline and kerosene in United States, as furnished by the larger marketing concerns, include taxes

August 22, 1933

Taxes

The gasoline quotations given in the following tables include the 1½-cent Federal tax effective June 17, 1933, as well as state, county and city taxes. The gasoline quoted is the regular or standard grade. In most marketing areas a third or competitive grade is available at 1 or more cents per gallon under the service station price for the regular grade. Ethyl Gasolines are sold 2 cents above the service station price for the regular grade.

Southern District

STANDARD OIL CO (KENTUCKY)

	Gasoline: Tank wagon	Service station	Inc'lds tax of	Kero. tank wagon
Atlanta, Ga.	22.0	22.0	7.5	10.0
Augusta	22.0	22.0	7.5	11.0
Macon	20.0	20.0	7.5	13.0
Savannah	22.0	22.0	7.5	14.0
Birm'ham, Ala.	24.0	24.0	8.5	13.0
Mobile	22.0	22.0	8.5	10.0
Montgomery	25.0	25.0	8.5	14.0
Jackson, Miss.	21.0	21.0	7.5	11.0
Vicksburg	20.0	20.0	7.5	11.0
Jack'ville, Fla.	21.0	21.0	8.5	13.5
Miami	22.0	22.0	8.5	13.5
Pensacola	19.0	19.0	8.5	13.5
Tampa	22.0	22.0	8.5	12.5
Lexington, Ky.	20.0	20.0	6.5	10.0
Covington	20.0	20.0	6.5	11.5
Louisville	19.0	19.0	6.5	10.0
Paducah	21.0	21.0	6.5	9.0

In addition to the state tax of 4 cents on gasoline, Montgomery has city and county tax of 3 cents on gasoline and one-half cent on kerosene. Kerosene prices in Georgia include 1-cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene and one-fortieth cent on gasoline. To Pensacola, Montgomery and Birmingham state taxes add 1-cent tax. To Mobile state tax add 1-cent city tax. Dealers receive discount of 2 cents off tank wagon price throughout territory.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wagon	Service station	Inc'lds tax of	Kero. tank wagon
Dallas, Tex.	15.0	17.5	5.5	7.5
Fort Worth	15.0	17.5	5.5	7.5
Houston	15.0	17.5	5.5	8.0
El Paso	15.0	18.0	5.5	8.0
San Antonio	15.5	18.0	5.5	8.0
Texarkana	*17.5	17.5	5.5	†11.0
Muskogee	15.0	17.0	5.5	7.0
Okla. City	15.0	17.0	5.5	7.5
Tulsa	15.0	17.0	5.5	7.0
Ft. Smith, Ark.	‡17.9	17.9	5.5	†10.0
Little Rock	‡20.4	20.4	7.5	†10.0

*Less 2½ cents to dealers. †Less 2 cents to dealers. ‡Less 4½ cents to dealers.

Standard Oil Co. (Indiana)

	Gasoline: Tank wagon	Service station	Inc'lds tax of	Kero. tank wagon
Chicago	15.8	15.8	4.5	8.7
Decatur, Ill.	16.2	16.2	4.5	9.2
E. St. Louis	15.5	15.5	4.5	8.5
Joliet	16.2	16.2	4.5	9.2
Peoria	16.2	16.2	4.5	9.2
Quincy	13.8	13.8	4.5	9.0
Davenport, Ia.	16.1	16.1	4.5	9.1
Des Moines	16.1	16.1	4.5	8.0
Mason City	16.1	16.1	4.5	9.1
Sioux City	15.7	15.7	4.5	8.7
Duluth, Minn.	16.7	16.7	4.5	9.4
Mankato	16.3	16.3	4.5	9.3
Minneapolis	16.4	16.4	4.5	9.4
LaCrosse, Wis.	17.8	17.8	5.3	9.8
Green Bay	17.2	17.2	5.5	9.2
Milwaukee	16.7	16.7	5.5	8.7
Madison	16.9	16.9	5.5	8.9
Detroit, Mich.	16.0	16.0	4.5	9.5
Grand Rapids	16.2	16.2	4.5	9.2
Saginaw	16.5	16.5	4.5	9.5
Evansville, Ind.	17.0	17.0	5.5	9.0
Indianapolis	17.2	17.2	5.5	9.2
South Bend	17.5	17.5	5.5	9.5
Fargo, N. Dak.	18.1	18.1	4.5	11.1
Huron, S. Dak.	18.4	18.4	5.5	10.4
Sioux Falls	17.9	17.9	5.5	9.9
K. C., Mo.*	15.2	15.2	4.5	8.5
Springfield*	15.1	15.1	4.5	8.1
St. Louis	14.2	14.2	4.0	7.7
St. Joseph*	14.8	14.8	4.5	7.8
Wichita, Kans.	14.1	14.1	4.5	7.1
Bartlesville, Ok.	14.5	16.5	5.5	8.5

*State tax 3 cents, 1-cent city tax and 1-cent Federal tax.

Effective June 1, 1933—Discounts off tank wagon price to consumers on 500 gallons or more per month in territory outside of Chicago metropolitan area: 2 cents on Ethyl and Red Crown gasolines, and 1 cent on Stanolind gasoline. One-half cent additional discount in Chicago division.

Effective July 1, 1933—Discounts on resellers authorized agent's agreement made off the service station price throughout the territory as follows: 2.5 cents on Red Crown Ethyl and Standard Red Crown gasolines, and 1.5 cents on Stanolind gasoline. Half of reduction from normal service station price shall be absorbed by reseller up to maximum of 1 cent on all grades.

Stanolex Furnace Oil in Chicago

Effective June 27, 1933, prices f.o.b. Chicago, tank wagon prices: No. 1 (36-40 lt. stw. zero), under 100 gallons, 7¾ cents; No. 2 (30-34 stw. zero), 7¼ cents; No. 3 (22-26 zero), 6¾ cents; No. 4 (13-16 zero), 6¾ cents. Viscosity of No. 4, 90-115 at 100° F.; No. 5, 6½ cents; for deliveries of 100 gallons or more deduct 1 cent.

Naphtha

	Tank: Wagon	Car
Oleum spirits	11.9	6.23
V.M.&P. naphtha	13.9	6.73
Cleaners' naphtha	13.9	9.23
Stanisol	13.9	9.23

Tank wagon prices f.o.b. Chicago, January 6, 1932. Each of above prices subject to discount of 1 cent per gallon for 150-gallon lots if covered by contracts.

Atlantic Coast District

(Effective June 28)

STANDARD OIL CO. (NEW JERSEY)

	Gasoline: Tank wagon	Service station	Inc'lds tax of	Kero. tank wagon
Atl'tic City N.J.	17.7	18.7	4.5	11.2
Newark	17.0	18.0	4.5	8.5
Annapolis, Md.	18.3	19.3	5.5	9.0
Baltimore	17.8	18.8	5.5	8.0
Cumberland	19.3	20.3	5.5	11.7
Wash'g'n, D. C.	16.0	17.0	3.5	10.0
Danville, Va.	20.4	21.4	6.5	9.9
Norfolk	18.9	19.9	6.5	10.3
Petersburg	19.7	20.7	6.5	11.4
Richmond	19.3	20.3	6.5	10.7
Roanoke	20.5	21.5	6.5	11.0
Charl'st'n, W.Va.	18.7	19.7	5.5	11.6
Parkersburg	18.0	19.0	5.5	10.2
Wheeling	18.7	19.7	5.5	11.2
Charlotte, N. C.	23.1	23.1	7.5	12.5
Hickory	23.4	23.4	7.5	12.7
Mt. Airy	22.4	23.4	7.5	12.8
Raleigh	21.9	22.9	7.5	12.3
Salisbury	22.2	23.2	7.5	12.6
Charleston, S.C.	19.9	20.9	7.5	10.3
Columbia	21.7	22.7	7.5	12.2
Spartanburg	23.1	23.1	7.5	12.5

Note—Dealer contracts for gasoline are written at 2½ cents over the posted tank car price. The posted tank car price is the sum of the tax and 7.5 cents subtracted from service station price. A 2-cent discount allowed for cash at all service stations. Kerosene 1 cent off tank wagon for 25 gallons or more under contract except New Jersey and Baltimore, Md.

New York and Part of New England District

STANDARD OIL CO. (NEW YORK)*

	Gasoline: Tank wagon	Service station	Inc'lds tax of	Kero. tank wagon
Albany, N. Y.	17.7	18.7	4.5	9.0
New York	17.2	18.2	4.5	8.0
Buffalo	17.9	18.9	4.5	9.0
Rochester	18.0	19.0	4.5	9.0
Syracuse	18.0	19.0	4.5	9.5
Boston, Mass.	17.2	18.2	4.5	8.0
Augusta, Me.	18.7	19.7	5.5	9.0
Manch'tr, N. H.	19.4	20.4	5.5	8.0
Burlington, Vt.	20.0	21.0	5.5	8.5

*All service station prices subject to 2-cent discount for cash.

Central South District

STANDARD OIL CO. (LOUISIANA)

	Gasoline: Tank wagon	Service station	Inc'lds tax of	Kero. tank wagon
N. Orleans, La.	18.8	19.8	*7.5	†11.0
Baton Rouge	18.0	19.0	6.5	†10.0
Alexandria	18.9	19.9	*7.5	†8.5
Lafayette	19.1	20.1	*7.5	†10.0
Lake Charles	19.0	20.0	*7.5	†10.0
Shreveport	16.8	17.8	6.5	†11.0
Knoxville, Tenn.	22.7	22.7	8.5	12.5
Memphis	21.1	22.1	8.5	10.0
Chattanooga	23.4	23.4	8.5	10.0
Nashville	22.0	23.0	8.5	10.0
Bristol	23.6	23.6	8.5	13.0
Lt. Rock, Ark.	19.9	20.9	8.5	10.0

*Includes city tax of 1 cent. †Louisiana kerosene prices include 1-cent state tax. New Orleans kerosene price also includes 1-cent city tax.

Effective June 1, 1933, station price fixed at 7 cents above basic tank car price at key refining points in territory. Discount to cash customers 3 cents off station price. Commercial consumers for tank wagon delivery pay following amounts over tank car price basis yearly deliveries:

1,000 to 75,000 gallons	2.5
75,000 to 300,000 gallons	1.5
Over 300,000 gallons	1.0

Pennsylvania-Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wagon	Service station	Incl'ds tax of	Kero. tank wagon
Pittsburgh, Pa.	16.0	17.0	4.5	9.0
Philadelphia	16.0	16.5	4.5	9.0
Scranton	16.0	17.0	4.5	9.0
Allentown	16.0	17.0	4.5	9.0
Altoona	16.0	17.0	4.5	9.0
Erie	16.0	17.0	4.5	9.0
Dover, Del.	16.0	17.0	4.5	9.0
Wilmington	16.0	17.0	4.5	9.0
Springf'd, Mass.	17.8	18.8	4.5	8.0
Worcester	17.7	18.7	4.5	8.0
Boston	17.2	18.2	4.5	8.0
Providence, R.I.	16.2	17.2	3.5	8.0
Hartford, Conn.	16.6	17.6	3.5	8.0
New Haven	16.4	17.4	3.5	8.0

On gasoline "split dealers," 2 cents off posted tank wagon price. To 100 per cent dealers, 2.5 cents. To authorized dealers (under lease 1 cent per gallon), 2.5 cents off posted service station price. Commercial accounts, under contract for one year, are sold at a discount off the posted prices, with due consideration to competition.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA*

	Gasoline: Tank truck†	Posted retail	Incl'ds tax of	Kero. tank wagon
Fresno, Calif.	17.5	20.0	4.5	14.0
San Francisco	17.0	19.5	4.5	13.5
Los Angeles	16.0	18.5	4.5	13.5
Reno, Nev.	20.5	23.0	5.5	15.5
Portland, Ore.	20.0	22.5	5.5	13.5
Seattle, Wash.	20.0	22.5	6.5	13.5
Tacoma	20.0	22.5	6.5	13.5
Spokane	21.0	25.5	6.5	18.0
Phoenix, Ariz.	17.5	20.0	6.5	‡16.0

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Above prices are at company's plant or depots as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank wagon lots except in Phoenix where the discount is 1 cent. ‡Includes 5-cent state tax.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wagon	Service station	Inc'lds tax of	Kero. tank wagon
Denver, Colo.	17.0	19.0	5.5	11.5
Pueblo	17.0	19.0	5.5	13.0
Grand Junctn.	19.0	21.0	5.5	13.0
Casper, Wyo.	18.0	20.0	5.5	10.5
Cheyenne	16.0	18.0	5.5	12.0
Butte, Mont.	21.5	23.5	5.6	17.5
Billings	21.0	23.0	6.5	16.0
Great Falls	23.0	25.0	6.5	17.5
Helena	23.0	25.0	6.5	17.5
Salt Lake, Utah	20.0	22.0	5.5	16.0
Albu'que, N. M.	18.5	21.0	*7.5	12.0
Boise, Idaho	23.0	25.0	6.5	18.0
Twin Falls	23.0	25.0	6.5	18.0

*One-cent city tax.

Effective June 1, 1933, dealers and lease and license accounts will receive 2½ cents discount on regular gasoline in Montana, Colorado, Wyoming, Utah and Idaho.

Ohio

STANDARD OIL CO. (OHIO)

	Gasoline: Tank wagon	Service station	Inc'lds tax of	Kero. tank wagon
Ohio points	17.0	*20.0	5.5	†13.5

*Two-cent discount allowed for cash. †Includes state tax of 1 cent, effective July 22.

Nebraska

STANDARD OIL CO. (NEBRASKA)

	Gasoline: Tank wagon	Service station	Inc'lds tax of	Kero. tank wagon
Omaha	16.3	17.8	5.5	9.8
McCook	16.0	16.0	5.5	9.0
Norfolk	17.3	18.3	6.5	10.3
N. Platte	18.3	19.8	5.5	11.0
Scottsbluff	18.3	19.3	5.5	10.0

Note: Discount to dealers and AAA commissions. From service station price: Red Crown Ethyl and Standard Red Crown Gasoline, 2½ cents. Reliance (third brand) gasoline, 1½ cents. Rentals under lease and agents agreement, one-half cent per gallon additional.

Discount to consumers under contracts (large consumers under contracts and governmental units): On tank wagon deliveries of gasoline on monthly purchases of 500 gallons, or yearly purchases of 6,000 gallons, from the service station price: Red Crown Ethyl and Standard Red Crown Gasoline, 2 cents per gallon; Reliance (third brand) gasoline, 1 cent per gallon.

Canada*

IMPERIAL OIL, LTD.

Imperial 2-Star Gasoline

	Gasoline: Tank wagon	Service station	Inc'lds tax of	Kero. tank wagon
†Hamilton, Ont.	25.0	26.0	6.0	16.0
†Toronto, Ont.	25.0	26.0	6.0	16.0
Brandon, Man.	29.5	33.0	7.0	21.0
Winnipeg, Man.	26.5	30.0	7.0	18.0
Regina, Sask.	29.5	33.5	6.0	22.0
Saskatoon, Sask.	31.5	35.5	6.0	24.0
Edmonton, Alta.	30.0	34.0	6.0	23.0
Calgary, Alta.	26.5	30.5	6.0	19.5
†Vanc'ver, B. C.	29.0	29.5	6.0	23.0
Montreal, Que.	22.5	25.5	6.0	15.5
St. Johns, N.B.	25.0	29.0	7.0	21.0
Halifax, N.S.	24.0	28.0	6.0	21.0

*Imperial gallon used in Canada. †Dealer discount posted tank wagon on gasoline in Ontario and British Columbia subject to dealer's discount of 2 cents per gallon.

Remarkable Example of Shallow Production

(Continued from Page 13)

power available from this motor to pump the other two wells on the lease the real problem in mechanics is to transmit part of this power to them. Several methods have been followed by the various operators, but the one that is typical consisted of using a long 1"x6" plank supported on a post. This plank is about 16 feet long and the fulcrum is made by inserting a three-fourts inch bolt through the post and balancing the plank on it. The end near the motor-driven well outfit is connected to the end of the walking-bear by a pitman and the other end of the plank extends to the second well to be pumped.

From this second well it was necessary to transmit power to a third well located at the back end of the lot. Between the second and third well an outhouse intervened, but instead of permitting this obstacle to be a hindrance the operator simply knocked a board off of one side and run another 16-foot plank between his wells and used the door frame for his upright post. The fulcrum is again formed by a bolt sunk in the door frame. The motion is imparted to this second beam by the usual pitman connection to the second well.

Briefly this system of pumping is a series of levers and if sufficient stock to make pitmans and plank walking-beams is available there seems to be no end to the number of wells that can be pumped by this method. It may be necessary for the operator to give the outfit a boost to start it going, but as a usual thing the pumps are not hard to start and once they are in operation they run all day long.

The operator gives close attention to his plant and changes steel drums at the various pumps as needed. He drains the oil off the water and skims the sand out of the oil and is usually kept quite busy all day long securing his 5 bbls. of oil. In addition to this he sells his product, and in the meantime he is kept from getting lonesome by entertaining numerous visitors who drive out to see this rather remarkable example of shallow production.

TWO RATE DECISIONS

AUSTIN, Tex., Aug. 21.—The Texas Railroad Commission has decided two appeals, taken to it by gas distribution companies, from ordinances passed by the cities of Atlanta and De Leon, which arbitrarily fixed the gas rates for consumers in those municipalities.

In the Atlanta case the commission sustained the city in fixing the charge to consumers at 60 cents per 1,000 feet less 10 per cent discount for cash if paid within 10 days after the due date, with a minimum charge of $1. The service charge of 50 cents on each consumer was abolished. The Southern Cities Distributing Co. was the appellant in the Atlanta case.

NEWS FOR SALES DEPARTMENTS

A. P. I. Committee Prepares Program For Annual Meet

The program committee of the division of marketing of the American Petroleum Institute met at the call of the chairman, Harry D. Frueauff, of the Cities Service Co., New York, in the Institute's New York offices on Wednesday afternoon, August 16, and prepared a tentative program of papers to be delivered at the marketing sessions of the Institute's fourteenth annual meeting, to be held at the Stevens Hotel, Chicago, Ill., October 24 to 26.

The topics the committee selected for discussion at the marketing sessions are: training our salesmen; marketing expenses and how they should be divided; should automobile specialties be sold at gasoline stations, and if so, which ones; a viewpoint of the oil industry from the sidelines; ethical advertising in the oil industry; what the marketing departments might do to improve public relations; the marketing side of the new code of fair competition for the petroleum industry; expenses due to change in design and type of equipment; economics of marketing; federal tax regulations for gasoline and lubricating oils; "your public and you" or relations with consumers.

The committee directed Acting Secretary of the Division of Marketing J. A. McNally, on the staff of the Institute in New York, to contact oil company executives experienced in the marketing problems of the petroleum industry and obtain speakers to discuss the subjects tentatively selected by the committee at its August 16 meeting. Mr. McNally will report the results of his survey to Chairman Frueauff, who will announce the names of speakers as soon as they have accepted.

Edward L. Bernays, nationally known consultant on public relations of New York, has accepted the Institute's invitation to speak at the annual meeting. The title tentatively selected for Mr. Bernays' paper, to be delivered at the marketing group session scheduled for Thursday, October 26, is "What the Marketing Departments Might Do to Improve Public Relations."

Other members of the program committee who met with Messrs. Frueauff and McNally at the Institute's offices are I. W. Dodge, of The Texas Co., and J. E. Skehan, of the Standard Oil Co. of New Jersey, both of New York.

CANADIAN REFINING PROJECTS

CHATHAM, Ontario, Aug. 19.—Monarch Refining Co., of which W. H. Stilson is manager, is now operating a small refining plant at Fabyan, Alberta. The plant is equipped to handle the Wainwright heavy crude, and its output features distillates. A high test lubricating oil will be marketed shortly.

International Bitumen Co. is continuing development work on its bituminous sand concessions 50 miles north of McMurray, Alberta. A carload of bitumen was recently shipped to a Calgary firm manufacturing roofing material. R. C. Fitzsimmons of Edmonton, president of the International Bitumen Co., has announced that next spring a $35,000 refining plant will be erected close to the extraction plant. This refinery will produce gasoline, kerosene, fuel oil, lubricating oil, medicinal oil and paint, as well as "Bitu-phalt," a trade-marked road building material to be marketed as a substitute for asphalt. The refinery will have an output of 300 bbls. daily of the various products.

Oil Company Employe Has Widespread Reputation as Expert Fly Fisherman

At a time when oil companies are doing so much to publicize their products, a unique and interesting medium of advertising was opened to the Gulf Refining Co. by one of its employes. It happens that Jack Lamb of the Fort Worth, Tex., office of the Gulf Production Co. gradually has been attaining fame as a bass angler until today he is recognized as one of the foremost flycasters of the nation.

Always a sportsman, and only fishing for the love of the fishing itself, Lamb has refused many offers to capitalize on his accomplishment, and looks with disdain upon those who besmirch the sport with commercialization. However, when the Gulf, along with other concerns, called upon their employes to enlist in acquainting people with their products, Lamb's ingenuity devised a high class means of advertising of which the Gulf should be justly proud.

Realizing that more and more people are turning to recreation, and that fishing is gaining a host of new adherents, Lamb seized upon the idea of giving publicity to his company by "carrying the name of Gulf to the forks of the creek," as he expressed it. In his many demonstrations of fly casting each year, Lamb meets thousands of tackle owners who have little knowledge of its proper usage, and through his liberal instructions much aid has been given to these novice fishermen.

The thought occurred to him that by wearing the Gulf emblem and making short talks on Gulf products at these gatherings, he would be doing his company a great service in personal contact and good will. Lamb is always in demand, and there is always a group of fishermen to greet him at the various fishing grounds. He rarely fishes without a number of spectators on hand to marvel at his uncanny fish-catching ability.

Jack Lamb, of the Gulf Production Co. putting on a fly casting exhibition during the annual jubilee at Brady, Texas

CODE REGULATIONS ADOPTED

CHICAGO, Aug. 21.—The Standard Oil Co. (Indiana) today introduced code hours and wage scales, with the necessary adjustments in skilled labor. Part timing is abandoned and wage increases total approximately 13 per cent at each of the company's refineries. Six hundred men are added and the annual pay roll is increased $650,000.

SEIZE BOOTLEG SHIPMENT

TOPEKA, Kans., Aug. 19.—State officials who are charged with the responsibility of preventing bootleging in the collection of the state gasoline tax are encouraged with the results obtained in recent weeks. This week the truck of a large operator bringing gasoline into Wyandotte County was seized by county officials on the grounds that the gasoline tax payments were being evaded. The truck was returned after the owner had agreed to stop making deliveries into Kansas. The Kansas port of entry law requires all trucks coming into the State loaded with gasoline to register and state to whom the delivery is to be made. In this case it was found that the shipment was diverted after the truck had passed through the port of entry.

FILE CONTRACT SUIT

American Oil Co, of Baltimore, Md., subsidiary of Pan American Petroleum & Transport Co., has entered suit in Superior Court, Baltimore, against Seaboard Midland Petroleum Co. for $200,000 damages on charge that the latter failed to fulfill a contract to purchase 52,000,000 gallons from American.

TEXACO GETS NEW CONTRACT

A one-year contract for the entire gasoline requirements of the Transcontinental Western Air System has been renewed with Texas Co., which also is supplying the air line with lubricating oil. The contract calls for fuel to be laid down at all the 23 terminals of T.W.A. across the continent.

Station Operators At Houston Agree On Minimum Prices

HOUSTON, Tex., Aug. 19.—Local servstation operators this week agreed upon a 13-cent minimum retail price for third grade gasoline and $1 each for washing and greasing service. The decision followed several meetings held under the auspices of the Harris County Service Mens Association in which local NRA officials were called in for conference. The NRA officials approved the prices established for gasoline and the two services. The service station men also petitioned the NRA at Washington, D. C., for a 56-hour week for employes at stations. No reply to the petition has been received.

The discussion which has taken place here in regard to the application of the NRA provisions reflects the diversity of conditions under which gasoline and other products are sold to consumers and the difficulties that confront those who are attempting to establish uniform marketing conditions which will be fair to all concerned.

The matter of a fair price for third grade gasoline was brought to a head when several independent dealers reduced their retail price to 12 cents including 4-cent state and 1½-cent Federal taxes. Other operators claimed that the 12-cent price was unfair and was below the cost of operation to a great majority of station operators. One operator selling at 12 cents contended that his costs were less than most retailers for the reason that he did not furnish air, battery water and other free services. He contended for that reason he should be allowed to sell under the stations which furnished more elaborate services. He and others finally agreed to advance to the 13-cent minimum. It is consensus of opinion here that with the application of the oil industry's code which will be made effective later in the month that higher prices will be necessary at stations. A survey indicated that most stations of all types have been operated at a loss for many months.

Order Lower Rates From Oklahoma to Minnesota

WASHINGTON, D. C., Aug. 18.—Rates on gasoline and other products of petroleum in carload lots from the Mid-Continent Field to Minnesota are unreasonable, according to a decision by the Interstate Commerce Commission. Before November 9 rates are to be established not exceeding 40 cents per 100 pounds from Group 2 in the Mid-Continent Field; 42 cents from Group 3, and 44.5 cents from the North Texas group.

Present emergency increases may be added. The carriers were also ordered to apply to the transportation of fuel oil and other low grade petroleum products taking the same rates to the same points, charges not exceeding 80 per cent of the contemporaneous rates on gasoline.

—C. E. K.

WORLD CAR REGISTRATION

The number of automobiles registered throughout the world totaled 33,568,295 as of January 1, 1933, according to a report issued this month by the U. S. Department of Commerce. The report shows that the total registration at the start of the year in the United States was 24,317,020 a decrease of 6.4 per cent from the year previous. For other countries the reduction was three-tenths of 1 per cent.

Adoption of Code Expected to Ward Off Price Reductions for East Coast Refinery Products

By A. E. MOCKLER
New York Bureau, The Oil and Gas Journal

NEW YORK, Aug. 21.—With the apparent elimination of price competition under that section of the oil industry's code which gives the President the authority to establish a basic wholesale gasoline price for a test period of 90 days, the breakdown of prices which appeared imminent as a result of the long period of weakness will probably be averted.

With withdrawals from storage limited to 100,000 bbls. daily, and with production strictly curtailed to estimated market demand, and that production allocated to states by the President's representatives, and with the President exercising complete jurisdiction over the volume of petroleum imports, a complete readjustment of all prices throughout the country seems a definite conclusion.

Kerosene

All price shading in kerosene sales came to a sudden stop on Thursday of last week when reports credited as official emanated from Washington and indicated the extreme measures which President Roosevelt intended to put into force in preparation of the petroleum code. Definite assurance that price-fixing would be an integral part of the code brought to a halt the marketing tactics here which were moving kerosene at inside figures said to be substantially below the posted price range of 5 to 5¼ cents per gallon. In an effort to build gallonage figures, sales had been made as low as 4¼ cents in the last few days preceding the publication of the code particulars.

The situation in so far as the normal market is concerned is fairly satisfactory. Consumption this summer has been larger than for several years, and new outlets for kerosene indicate that the arrival of the regular winter season will find kerosene in a strong statistical position.

Gas Oil

With East Coast refineries holding gas oil stocks down to minimum volume, a firm basis has been maintained and the posted price held firmly at 4 cents per gallon for 28 gravity minimum oil. The trade expects a normal movement of California gas oil eastward with the approach of colder weather, and reports indicate that a large volume may be expected at Baltimore, Philadelphia, New York, and New England ports, originating at the Gulf.

Furnace Oil

Preseason operations have already started in furnace oil, and distributors are taking deliveries in small volume so as to take care of their early trade. Seasonal demand will bring about a continually mounting movement of furnace oil. Prices held unchanged during the week in both tankcar and tankwagon, pending advances in tankcar apparently having been postponed until the trade gets a clearer idea of its position under the administration of the code.

Fuel Oil

A price increase in fuel oil would occur at this time regardless of any code provisions, it is believed. Consumption has shown an unexpected increase due to an expansion of shipping activity. East coast ports are receiving a large share of the business of ships operating through the canal to Pacific ports, despite the lower prices prevailing in the west. Shippers have found that to take on capacity loads in the west would accrue a saving, but that this financial benefit was offset by the higher toll payments through the canal. Ocean-going ships out of New York who are operating under contracts with refiners are being sold at 80c a barrel.

Diesel Oil

Consistent improvement in demand for Diesel oil, resulting from the increasing number of motorships being put back into operation, has brought a firmer undertone to local markets, and the price holds steady at $1.75 per barrel, in bulk, f.o.b. refinery terminals. There is a moderate, fluctuating spot demand, the greater portion of current business being done on a contract basis.

Another favorable factor has been the surprising increase in domestic consumption, which shows steady improvement. Refinery tankcar sales at 4 cents per gallon for 26-30 gravity oil, f.o.b. terminals, show impressive gains.

Paraffin Wax

The domestic trade continued volume buying in fully refined grades of paraffin wax at firm prices. The excellent demand which has brought the price structure up many points recently was unchecked.

An improved call for export wax for September shipment tended to bolster prices, which continue on the higher levels established during the last fortnight. Available stocks are being depleted by the constant movement into consumption, and farther advances, regardless of the code, are believed inevitable.

Lubs

The strong position of cylinder oils was maintained, with a satisfactory volume booked by refiners for spot and nearby delivery. Prices held steadily despite the weaker tendency in other refined products. Export interests, however, withheld commitments in the expectation that lubs would show the effects of the generally weaker tone. However, this reaction did not materialize.

No change occurred in the market position of red and pale oils, with routine business continuing at the higher levels recently posted. Shipment abroad from the Gulf and Atlantic ports has shown an improvement.

Exports and Imports of Refined Products; Receipts of California Oil in the East

NEW YORK, Aug. 21.—Despite the weakening in gasoline prices during the past week, export demand slowed down to a standstill. Neither buyers nor sellers appeared anxious to do any business until the status of the industry was established by the administration's code, which was then in the course of preparation, and of which nobody officially knew the details. However, enough information seeped out of Washington to indicate that price fixing was going to be a definite administrative measure. Therefore, completely ignorant of what to expect in this line, traders adopted a waiting attitude.

That portion of the code covering imports seems as yet too vague to impart any definite information as to what the trade might expect. President Roosevelt is given the authority to restrict the inflow "to volumes bearing such ratio to the estimated volume of domestic production as will effectuate the purpose of this code and the National Industrial Recovery Act."

One sale of East Texas crude at 88 cents was reported from the Gulf during the week, but definite information or even confirmation of the deal was lacking.

Export operators whose activities have been halted by the uncertainty of the market situation, have been watching closely the developments in the inflation recommendations which are now flooding the nation's capital. Further devaluation of the American dollar will assist them in the principal markets of the world.

Operators in this market, however, declare that before they can establish any basis for the resumption of trading they must have the complete picture of the industry's position under the code.

Petroleum Exports

The following table shows exports of principal refined petroleum products reported from the port of New York during the three weeks ended August 12 (all figures in gallons unless otherwise noted):

	Week ended		
	Aug. 12	Aug. 5	July 29
Gasoline	4,000	25,000	480,000
Naphtha		318,000	
Kerosene	2,000	12,000	215,000
Fuel and gas oil		7,000	
Lub oil	1,035,000	920,000	6,813,000
Pet., refined	36,000	155,000	910,000
	Pounds		
Petrolatum		10,000	12,000
Paraffin wax	2,311,000	925,000	1,345,000
Refined		24,000	30,000
Scale	97,000	40,000	105,000
Lub grease	521,000	510,000	626,000

The underlying strength in lubricating oils was shown by rigid adherence to recent price advances, and to slight farther upward revisions in some numbers. Export demand continued in fair volume, however, and a good gallonage has been booked for shipment of cylinder oils. Demand for cased gasoline and kerosene has shown no improvement, however, and movement continues slow and in small commitments. Subnormal trade also marks lubricating greases sales for foreign consumption. Export buyers hold that there can be no marked improvement in foreign demand until the American market has become more stabilized, possibly under the new NRA code.

Imports

Imports of crude and refined petroleum at the principal United States ports for the week ended August 12 totaled 1,678,000 bbls., a daily average of 239,714 bbls., compared with 721,000 bbls., a daily average of 103,000 bbls. for the previous week, and a daily average of 159,393 bbls. for the four weeks ended August 12. Details follow:

(Barrels of 42 gallons)

At Atlantic Coast Ports—	Bbls.
Baltimore	62,000
Boston	76,000
New York	1,058,000
Philadelphia	333,000
Others	75,000
Total	1,611,000
Daily average	230,143
At Gulf Coast ports, total	67,000
Daily average	9,571
At all United States ports—	
Total	1,678,000
Daily average	239,714

The week's imports consisted of 1,288,000 bbls. of crude petroleum and 390,000 bbls. of fuel oil.

California Oil Receipts

Receipts of California refined oil at Atlantic Coast ports (there were no receipts at the Gulf) during the week ended August 12 totaled 193,000 bbls., a daily average of 27,571 bbls., compared with 74,000 bbls., or 10,571 bbls. daily for the previous week, and a daily average of 40,536 bbls. for the four weeks ended August 12. Details follow:

(Barrels of 42 gallons)

At Atlantic Coast Ports—	Bbls.
Baltimore	39,000
Philadelphia	114,000
Others	40,000
Total	193,000
Daily average	27,571

The week's receipts consisted of gasoline.

Unusual Provisions Mark Will of Karl C. Schuyler

DENVER, Colo., Aug. 21.—The will of the late Karl C. Schuyler, former U. S. senator from Colorado and prominent oil man who died in New York two weeks ago, was probated this week and it made unusual provisions for the future operation and development of the properties in which he was interested. His experience as an attorney showed him that the death of a holder of large interests often resulted in their sale in winding up an estate under conditions which frustrated the original plans. He bequeathed his stock holdings and interests in various enterprises undergoing development in trust to Eugene D. Millikin. These included his stock in the Kinney-Coastal Oil Co., of which he was president. His provision for that company was as follows:

"The management and direction of affairs of the Kinney-Coastal Oil Co. . . . have been operations of a constructive nature, the plans for the acquisition and development of which have been the subject of several years of constant co-operation and effort by the said Millikin and myself; only by the uninterrupted maturing of these plans can the results which are hoped for be fully realized for me or for my estate; therefore, I do not desire these interests sold for the purpose of liquidating my general debts or for the purpose of providing income to satisfy the other provisions of this will, or for any other purpose, prior to the time that said Millikin, in his sole discretion, shall determine that it is wise to make dispositions thereof. . . ."

Mr. Schuyler was a member of the Kinney-Coastal executive committee, the other members being Mr. Millikin and J. A. Warren, secretary of the company. Similar provisions were made in regard to the handling of his several thousand acres of oil shale holdings and his various mining ventures.

Chicago Market Optimistic, Though Refiners Are Dubious About Code's Price Fixing Formula

By R. C. CONINE
Chicago Bureau, The Oil and Gas Journal

CHICAGO, Aug. 21. — Excepting the expected adverse developments, such as the rush of certain refiners to sign up business before the oil industry code goes into effect, the outlook, according to the majority of the trade in the Chicago district, is decidedly more optimistic. Refiners, however, were disappointed on their inspection of the price fixing formula set forth in Section 6 of Article III, in which a constant of 18.5 is applied in arriving at the price of crude oil on the basis of the monthly average price of the middle octane gasoline, Group 3. No refiner was found who thought that he could operate profitably with such a price relation existing between gasoline and crude oil.

However, it is pointed out that the position of the refiner grows more favorable as the gasoline and crude oil prices advance. With the average price for the middle octane gasoline at 4.25 cents, Group 3, the crude oil posting, 36-36.9°, is about 78 cents a barrel, while with $1 crude oil, the Group 3 tank car prices on the gasoline would be at close to 5.5 cents a gallon. If the code goes into effect September 1, in about its present form, the average August price on gasoline will call for a sharp advance in the crude oil posting from the 54-cent level.

State Clamping Down

State gasoline tax authorities are taking drastic steps to stamp out gasoline tax evasion. Distributors say they have been threatened with cancellation of their licenses if they continue to sell motor fuels to persons known to have evaded the state gasoline tax in the past. One distributor said, "The state is prohibiting me from selling gasoline to a former tax evader, although I collect the tax when I deliver the motor fuel. I think this is going too far, but I can't fight back as I can't afford to put up a long legal battle, nor risk saving my license by injunction." However this may be, it is certain that Star Chamber tactics will not be permitted, and all honest operators are certain to reap benefit from an intensive campaign against the cheats in the retail end of the business.

Chicago district refiners and distributors appear to be completely absorbed in matters connected with the petroleum industry code. The current spot markets do not appear to interest them and it is evident that they are determined to watch developments this week for their cue. Exceptions are to be expected, and the fact that one Texas refiner has offered 100 cars of 60-62 octane gasoline, for immediate delivery (over this week), at 3⅝ cents, Group 3, without affecting the quotations of other sources, is taken as certain evidence that refiners are not going to allow themselves to be stampeded. In fact, the refiner to whom the 100 cars were offered is holding to a 4¼-cent price on that grade of material, and predicts that prices this week will advance from half a cent to three-quarters of a cent.

Refiners and distributors in the district are learning from the Government itself the attitude it deems proper to take toward those who have failed to obtain their blue eagles. Every order from government branches has appended a notice that the Government has ordered terminated all contracts for supplies to government agencies with firms which have not pledged support to the NRA, and further, that government agencies shall have authority to purchase in the open market balance of supplies due under existing contracts, and charge any excess cost which might occur against the contractor.

High Demand Level

Motor fuel consumption continues to be a favorable factor in the district. Although most of the gasoline moved represents contract business, few instances are noted in which open market slackness may be indicated by low price offerings. However, it must be remembered that gasoline stocks at refineries have mounted and the reluctance of refiners to bid for business may rest solely on their conviction that they will be able to get much higher prices before long. In fact, not a few refiners have virtually withdrawn from all of the markets by adding a full cent to their quotations. One large independent said that while he had large supplies of distillates, kerosenes and gas oil on hand, he is determined to hold these materials for the burning oil season when, he says, "I can get 3 cents for my 32-36 material and 3½ cents, Group 3, for my 38-40 straw distillate." The comparative weakness noted in the kerosene markets, with prices admittedly too close to the distillate brackets, is not easily explained as August is considered a good kerosene month. Some refiners are seeing the advantage of blending their heating oils.

Further Advances Expected

Gasoline tank car prices Monday showed advances of an eighth of a cent to a quarter of a cent, with the octane grades leading. These prices are confidently expected to advance vigorously this week when operators begin preparations for the application of the petroleum code in their business. Prices Monday were as follows: Regular grade gasoline advanced a quarter of a cent to a range of 4⅛ to 4⅜ cents; premium grade gasoline moved up similarly to a range of 4⅝ to 4⅞ cents; the third grade U. S. Motor gasoline made an eighth of a cent advance to a range of 3⅝ to 3⅝ cents. While the use of the aviation gasoline described as fighting grade under the old army specifications, and rating under 72 octane number, has dwindled in favor of the higher octane materials, this low endpoint cut showed a quarter of a cent improvement in Chicago district quotations.

The price range for fighting grade Monday was 4½ to 5 cents. Other gasolines in the list advanced an eighth of a cent as follows: 60-62 400 endpoint gasoline, 3½ to 3¾ cents; 64-66 375 endpoint gasoline, 3⅝ to 3⅞ cents; 68-70 360 endpoint gasoline, 3⅞ to 4⅛ cents.

Naphthas Highly Unsettled

Anything can happen this week in the special naphtha tank car markets. Prices on these materials are just as likely to break downward sharply, as they are to advance similarly. The reason for this is traceable to the efforts of one of the larger refiners in the district to "sew up" business before the petroleum code goes into effect. This refiner has offered one of the largest paint manufacturers in the district a contract providing for delivery until October 1, 1934, of Stoddard solvent and V.M.&P. naphtha at prices, respectively, of 6 cents and 6¾ cents, f.o.b. Chicago district refinery. Ignoring switching district charges, the net backs to Oklahoma refiners would be 3.56 cents on the Stoddard, and 4.31 cents on the V.M.&P. naphtha.

It is estimated that the average bubble tower operation on 36° gravity Mid-Continent crude oil gives a 30 per cent yield of the naphtha cut containing rubber solvent, V.M.&P. naphtha and Stoddard solvent. The competing Oklahoma refiner would get 5.04 gallons of rubber solvent, 2.52 gallons of V.M.&P., and 5.04 gallons of Stoddard from a barrel of crude. On the prices quoted by the Chicago district refiner the Oklahoma refiner would realize 17.9424 cents on Stoddard, and 10.8612 cents on V.M.&P., so that even if he sold his rubber solvent at the normal low of 5.5 cents, Group 3, his special naphtha realization on a barrel of crude would total only 56.5236 cents. If he paid nearly 80 cents a barrel for his crude oil, and met the additional treating expenses attending special naphtha production, it would be impossible for him to conform with the "cost of production" clause in the petroleum code.

Later developments will reveal whether this cost of production factor can be evaded by hastily drawn up contracts obviously anticipating the effective date of the code. Mr. Dawes, president of Pure Oil Co., pointed out in the August 17 issue of The Oil and Gas Journal, that this "cost of production" principle antedates the code by many years. In the face of this unfavorable development, certain of the larger special naphtha producers and marketers said Monday that further strengthening in the gasoline markets (in view of the proposed price relationship with crude) would force them to advance their prices proportionately or withdraw from the markets.

Kerosene Tank Car Markets

The kerosene tank car markets moved up sympathetically with the stronger gasoline position, although demand is considered subnormal for this time. Prices Monday had advanced an eighth of a cent, lagging the betterment in the distillates somewhat. The 41-43 water white kerosene was offered at 2½ to

(Continued on Page 33)

DO YOU REMEMBER?

From The Oil and Gas Journal Files

25 Years Ago

August 23, 1908

Overproduction in the Illinois fields has caused a let-up in drilling. The Ohio Oil Co., which takes 70 per cent of the crude, has shut down 100 strings of tools and is discouraging drilling until supply comes down to demand.

The North Tulsa Pool, recently opened by Armstrong & Cremin with a 1,000-bbl. well, is one of the busiest spots in the Oklahoma Field. The latest company to enter the field is the Alpine Oil Co., made up of Harry F. Sinclair of Independence, Kans., and Pat and Tom White of the Oil Well Supply Co.

Col. William A. Myers, of Bolivar, N. Y., pioneer nitroglycerin manufacturer and oil well shooter, dies in a Buffalo, N. Y. hospital, age 71 years.

20 Years Ago

August 28, 1913

There are 18 oil refineries in Kansas. Six years ago there were 26. Decline in crude oil production and increased freight rates were responsible for the demise of eight plants.

Magnolia Petroleum Co. is preparing to establish a filling station in Tulsa.

P. J. White, president of the Exchange National Bank of Tulsa, is spending his vacation in California.

The Standard Oil Co. will soon be ready to top crude in its new refinery across the Panuco River from LaBarra, Mexico.

California pipe lines have by law been made common carriers.

10 Years Ago

August 23, 1923

Production of the Powell Field, in Texas, has increased to 127,000 bbls., with most of the wells pinched in.

R. A. Griffith has been made president of the Sinclair Oil & Gas Co.

The manufacturers' output of cars and trucks for the first seven months of 1923 was 2,343,000, an increase of 68 per cent over the same period in 1922.

Theodore M. Towl, a director of the Standard Oil Co. before the dissolution, dies in Brooklyn, N. Y., age 80 years. He was associated with the company at its inception, and was at the head of its real estate and tax department when he retired several years ago.

A showing of oil has been discovered in Carson County, Texas Panhandle, in a well drilling for gas. Gas was found at 2,900 feet and the oil showing just beneath it.

California produced an average of 814,261 bbls. per day in July. In the same month in 1922 it produced 440,155 bbls. per day.

Law of Supply and Demand Long Ago Upset in the Interests of Industry and of Labor

By T. J. LEAHY
Pawhuska, Okla.

For years I have been giving much thought to the oil industry and what was necessary to do in order to keep it on a paying basis so that those who were engaged in the producution of oil would not be selling their oil at a price which was less than the cost of production and a reasonable profit derived from their business. That the production and sale of oil at a less price than it cost to produce it and which gives a fair return on the investment is a waste of a great natural product in which the public is interested, I think, will not be questioned. It would seem, therefore, advisable that a minimum price for oil which would pay for its production and give a reasonable return on the investment should be fixed. The question is, how can this be done?

We are met in the outset by the statement from many that the price of oil is controlled by the law of supply and demand, which reduced to its crude meaning is that one fellow will always take advantage of another fellow's misfortune. It also means that everybody connected therewith will take advantage of such opportunities as he may have to increase his profits out of the other fellow's misfortunes.

The time was when it was preached throughout the United States that the Government must not interfere with business as it prevented the development and growth of the individual and interfered with legitimate enterprises. Perhaps that was true in the days when governmental problems were simple and conditions generally were such that no individual could either by himself or through cooperation take any great advantage over other individuals — but that day has passed. A prominent writer a short time ago said: "The day of unregulated individualism has passed." Under the policies now being promulgated by the present national administration, that proposition is recognized.

Upsetting a Natural Law

Long ago the Government of the United States reached the conclusion that the law of supply and demand, if left to take its own course, would prevent the building up of great manufacturing industries in this country, and, in order to avoid that, a protective tariff law was enacted which prohibited the importation of foreign manufactured articles so that they could compete with manufactured articles in this country on a basis which was less than the cost of production and reasonable profit. The purpose of the protective tariff is to enable the protected industry to provide for a minimum price at which its articles can be sold without coming in competition with foreign goods, so that we have an example in the great protective system developed by the United States where the Government interfered in a legitimate way to avoid the disastrous results of what is known as the law of supply and demand.

Labor Joined In

Another example wherein both the national and state governments have cooperated to set aside the law of supply and demand is that with reference to labor. Labor unions have been formed throughout the United States and have been benefited by both Federal and state legislation so that it was possible for labor, without regard to the law of supply and demand, to fix wage scales in such amount as would enable the laborer to live and properly feed, clothe and educate his family. The country generally approves of this legislation, and it has resulted in much good for the laborer.

And Then the Farmer

Co-operative laws have been passed by a great many of the states which had for their object the fixing of a price for farm products which would enable the farmer to obtain for his products such a price as would pay him for cost and production and give him a reasonable profit. This worked well in a few places, but it was soon found that the farmers were too numerous and unwieldy to, by co-operative organizations, secure the benefits that were needed. Consequently the Government has, by recent legislation, practically taken charge of the matter so as to provide a definite and absolute way of fixing a minimum price for farm products that will enable the farmer to live, educate and care for his children, and at the same time either keep the mortgage off his farm or pay the mortgage that is there now. By legislative fiat, the Government is seeking to control and reduce the supply to the demand for the product.

These particular instances are urged for the purpose of showing that the Government, both state and Federal, has taken the position that it is a proper problem and duty of the government to come to the assistance of any great industry, so as to protect the people engaged in that industry from disaster.

Regulation and Control

There is no reason why the oil industry cannot be so regulated and controlled as will fix a minimum price at which oil can be produced and make the business a profitable business. It is generally assumed that oil cannot be produced and marketed at a profit for less than $1 per barrel. Whether that is the proper figure to be taken, yet, it will serve the purpose for what I have to say. In my mind three things are necessary for the oil industry:

First, a minimum price which will become permanent and will not be subject to change.

Second, national and state legislation whereby the production can be controlled.

Third, co-operation between those engaged in the industry in harmony with state and Federal legislation.

A Peculiar Natural Product

On the first question, it should be determined by the proper authorities, under proper legislation, what constitutes a proper minimum price for oil. The foundation of which determination is that it is a waste to produce oil and sell it on the market for less than such minimum price. Oil is a natural product. It is not based upon the ingenuity or industry of any man or set of men. It is God given and was intended for the benefit of mankind.

The public has an interest in the product in that it is concerned that there should not be overproduction and waste, and that the product should last as long as possible for the benefit of everybody. The Federal and state governments have particular interests in addition thereto in that they have lands, or the control of lands, which are producing oil.

The refiner of crude oil, if he knows that he must pay not less than $1 per barrel for his product, will fix the price of the refined products in accordance therewith, and there is no more reason why that should not be done than there is why the price should be permitted to fluctuate up and down in a ruinous way to the producer and the price of the refined product be fixed on such basis.

It would seem, therefore, that it is not only the duty but the province of the Government to fix a minimum price which would be for the benefit of the industry as well as to protect it against waste.

Proration Is Lawful

On the second proposition, that is, the necessity of regulating the production, proration laws have been upheld so that there is no longer any question as to the right of the state to put a limitation upon production. Of course, this must be done in such way as not to bring about any undue unjustness or injury to any producer but upon such fair and equitable basis as may properly be determined.

If the demand for oil is 3,000,000 bbls. per day, and Oklahoma, based upon its actual ability to produce, is entitled to produce 400,000 bbls. of that oil when its capacity, we will say, is 600,000 bbls., then there should be such regulation by the proration as will allow the production and sale of 400,000 bbls. and no more. The same should be true with reference to other states.

The national Government can aid materially in this matter by proper legislation preventing the transportation of oil beyond the state limits so as to limit the amount of oil that can be produced and carried to the refinery to 400,000 bbls. per day in Oklahoma and whatever the allowable production may be in other states.

It seems to me that the Marland-Capper bill is intended to aid in bring about this result. It is, therefore, essential, in line with government activities to enable this line of business, that the production and removal of oil from the lease where produced be regulated and controlled. We have recently had a horrible example of the failure to do this in the State of Texas, and we all saw how readily the purchaser of oil took advantage of the enormously increased production in Texas, buying and storing very much oil as low as 10 cents per barrel. If reports are to be believed, millions of barrels of oil were bought at that price when $1 a barrel should have been paid for the same and thereby been of great benefit to the industry.

Of course, there is argument that the buyer of the refined product, who is not interested in the production or refining of oil, is interested in the purchasing of the refined product at as cheap a price as possible, but that same argument applies to all of the other industries, and, if the principle of aiding industry to reap the greatest benefit from its product is to be adhered to, then this proposition ought not to have and receive any great consideration. We pay more for the things we wear and the instruments we use because of the protective tariff than we otherwise would. We pay more for labor because of legislation in behalf of labor than we otherwise would pay. Under the influence of national legislation, farm products have increased very much in the last 60 days; therefore, we will pay more for the farm products than we otherwise would.

It is the set policy of our Government, both national and state, to aid and come to the rescue of industries so as to protect them against destruction and to prevent waste. Consequently, it is not only advisable but necessary that the oil industry should be helped and benefited by proper national and state legislation the same as every other industry, and that no consideration should be given to the old and worn out phrase that markets are controlled by the law of supply and demand. That was a case of dog eat dog, which we want to get away from. We either should get back to natural laws with reference to everything or we should give assistance through legislation to all industries so as to bring about a parity and enable such industry to prosper in competition with other industries which receive helpful support from the Government.

Must Be Co-operation

On the third proposition, which is highly essential and which probably could be brought about without the aid of legislation if everybody was willing to be controlled by the principles of fair and equitable dealing and through co-operation limit themselves to what is fair and right, but since that cannot be done, it is necessary, therefore, if we get legislation along the lines specified in provisions one and two above, that those engaged in the production of oil must co-operate with the Government in limiting the amount of their product to whatever the Government says the demand calls for, and the refiners of oil should fix a price at all times for their refined product which would enable them to buy oil at not less than a minimum price fixed by the Government and which the consumer would know that he would have to pay.

It seems to me that there is no reason at all why the buyer and refiner of oil would not be glad to see such condition as this brought about and give their full co-operation. That would mean, of course, that they would only be required to purchase and have on hand not more than what the demand for the refined product called for; it would mean that the pipe line companies would not be required or permitted to run more oil than the Government said the demand called for; it would mean that the producer of the oil would be limited to such amount of production as would take care of this demand.

Of course, there would be some little variation which would probably have to be cared for. These of necessity, of course, would have to be oil stored, and the amount that we put in over storage or under run to a small extent might not correspond to the amount fixed by the Government as the demand for oil. That would have to be taken care of by proper regulations; but, in the main, the matter would be handled and the industry benefited. The Government, through proper legislation, will take care of what is known as the "bootleg business" in oil.

In addition to the above, the Government should pass legislation which will prevent importation of oil and its refined products until such time as the supply of oil in the United States will not take care of the demand for oil and its by-products.

Differentials in Prices Expected to Continue

(Continued from Page 8)

gasoline price remaining the same and with the crude price boosted to 18.5 times that of gasoline, the same refiner will actually show a loss from operations. If these simple revenue per barrel statements reflect actual conditions before and after adopting the code it becomes apparent that a higher gasoline price will

have to be specified by the President than that now shown. It will need to be substantially higher and the value of the other products must advance proportionately so the total revenue from all products of the crude adequately cover the crude advance and the higher refinery labor costs. The rumored price of 5.4 cents for gasoline would not seem unreasonable on this basis.

Every plant has its own particular set of operating conditions so that the accompanying assumptions may appear low to some and high to others, but here only the prices were changed so the relative position of all plants under the two cases would be as shown here.

The code specifically states that each division of the oil industry must stand on its own feet. The practice of paying the losses of one division with the excess profits of another is not consistent with the efforts of the code. This provision places the individual who operates in only one division of the oil industry on a parity with an integrated company.

Retail Market

There is no provision in the code as the President signed it for the regulation of retail prices other than that the vendor may not sell gasoline below the cost of production. That, of course, applies to all phases of the marketing of gasoline, motor fuel, kerosene, lubricants and burning oils in the refinery, by the jobber, broker, or retailer. The one exception is made in the case of a retailer, however, who finds a competitor has posted a lower price. In such case the code states that the higher price may be revised to meet the lower price of the competitor even though it may bring it below the cost of production. The code provides that a complaint be placed against the competitor before the subcommittee for the district in question.

This offers a serious chance for abuse of the code and the speed with which the subcommittee handles these questions will probably determine the degree of abuse to be practiced.

The marketing division has one definite assurance of an advance in prices, namely, that any increase in marketing costs in the form of higher wages, etc., may be equalized through higher prices. The July 1 price will probably be used as the base.

If this does not bring relief to the division because of a failure on the part of marketers to agree on a price, the President may then take steps to establish a fixed differential between the refinery gasoline price and the filling station price and in effect would then regulate all prices.

Oil Code Signed by the President to Be Revised

(Continued from Page 8)

as we feel that the success or failure of this code will practically depend upon the manner of its administration by the planning and co-ordinating committee, we strongly urge that we be given a fair, proportional and equitable representation on said committee."

Committee Nominations

In approving the code Mr. Roosevelt said he would take up this question with the planning and co-ordination committee of 15, before formally promulgating code terms, which made the makeup of this group of vital importance to the industry and its warring sections.

Nineteen nominees for the committee were submitted to General Johnson by the emergency national committee of 54 organized at the Chicago conferences, the group leading the fight for price fixing. They were:

Axtell Byles, president of the American Petroleum Institute; K. R. Kingsbury, president of the Standard of California; E. B. Reeser, president, the Barnsdall Corp.; H. F. Sinclair, chairman, Consolidated Oil; Wirt Franklin, president, Independent Petroleum Association; R. T. Zook, Pennsylvania Grade Crude Oil Association; B. L. Majewski, Deep Rock Oil Corp.; Charles F. Roeser, Fort Worth, Tex.; Howard Bennet, Western Petroleum Refiners Association; W. T. Holliday, Standard of Ohio; W. D. Hudson, Tennessee Oil Men's Association; Frank Phillips, Phillips Petroleum Co.; Henry M. Dawes, Pure Oil Co.; A. L. Derby, Derby Oil Co.; W. J. Reid, Hancock Oil Co.; L. P. St. Clair, Union Oil of California; Paul Blazer, Ashland Refining Co.; T. H. Barton, Lion Oil & Refining Co.; E. V. Weber, Ohio Petroleum Marketers Association.

Fifteen nominations were made by the antiprice-fixing group, including the following:

C. B. Ames, chairman, the Texas Co.; C. E. Arnett, president, Socony-Vacuum Corp.; O. D. Donnell, president, Ohio Oil Co.; J. F. Drake, president, Gulf Oil Co.; W. S. Farish, chairman, Standard of New Jersey; Jacob France, president, Mid-Continent Petroleum Corp.; W. M. Irish, president, Atlantic Refining Co.; A. Jacobson, president, Amerada Petroleum Corp.; D. J. Moran, president, Continental Oil Co.; J. Howard Pew, president, Sun Oil Co.; E. G. Seubert, president, Standard of Indiana; E. L. Shea, president, Tide Water Oil Co.; W. G. Skelly, president, Skelly Oil; W. E. Smith, president, Standard of Kentucky; and R. G. A. Van der Woude, president, Shell Petroleum Corp.

Twelve nominees were submitted by the independent factions under Jack Blalock of Marshall, Tex., the only group that refused to accept the code. They follow:

John B. Elliott of Los Angeles, adviser to General Johnson; J. R. Parten, Shreveport, La.; William Keck, Los Angeles; Jack Blalock, Marshall, Tex.; F. W. Burford, Dallas; Joe Danciger, Fort Worth, Tex.; Joe Mahoney, El Dorado, Ark.; T. L. Wynne, Athens, Tex.; H. H. Chaplin, Enid, Okla.; Frank C. Hart, New York; Sterling Mutz, Lincoln, Neb., and W. A. Williams, Fort Worth.

Crude Oil Prices

(Continued from Page 25)

Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kennerdell, Emlenton, Tiona, Lacy and Kinsua districts.
Price depends on length of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective August 11, 1933)

Cabin Creek, W. Va.	$1.72
Bradford Hollow, W. Va.	1.72

Rocky Mountain States

Iles, light (July 8, 1933)	$.50
Ilea, heavy (July 8, 1933)	.44
Florence, Colo. (June 17, 1933)	.30
Fort Collins and Wellington, Colo. (June 17) (See Salt Creek prices)	
Cat Creek, Mont. (June 17, 1933)	.42
Big Muddy (July 8, 1933)†	.55
Frannie, light (July 8, 1933)	.41
Frannie, heavy (July 8, 1933)	.30
Salt Creek and La Barge (July 8, 1933)	
See Stanolind Mid-Continent price schedule	
Grass Creek, light (July 8, 1933)	.72
Grass Creek, heavy (Dec. 16, 1932)	.45
Elk Basin (July 8, 1933)	.72
Rock Creek (July 8, 1933)†	.54
Dutton Creek (July 8, 1933) See Mid-Continent gravity prices.	
Lance Creek (Dec. 16, 1932)	.92
Poison Spider (Mar. 5, 1931)	.70
Hudson (June 2, 1931)	.85
Lander (Mar. 5, 1931)	.40
Rex Lake (Feb. 21, 1930)	1.10
Osage (Jan. 18, 1933)	.52
Lost Soldier (July 8, 1933)	.42
Hamilton Dome (Dec. 16, 1932)	.35
Torchlight (July 8, 1933)	.72
Greybull (July 8, 1933)	.72
Pondera (June 17, 1933)	.70
Sunburst (July 8, 1933)	.90
Hogback, N. Mex. (July 8, 1933)	.75
Lea County, N. Mex. (See Note)	.30
Maljamar (June 19, 1933)	.35
Artesia-Jackson (July 11, 1933)	.45

Note—Salt Creek, Cat Creek, Dry Creek, Dallas-Derby, Hudson, Greybull, Hogback, and Iles by Stanolind Oil & Gas Co. and remainder by Ohio Oil Co. Both companies posted Grass Creek light and Elk Basin. Lost Soldier posted by Producers & Refiners Corp. Artesia, Jackson and Maljamar posted by Continental Oil Co. Lea County, effective June 19, by all purchasers; Fort Collins, Wellington, Orchard, Florence, Big Muddy, Cat Creek, Rattlesnake and Table Mesa by Continental Oil Co. Osage posted by Arro.
*Continental Oil Co. †Ohio Oil Co.

Middle Western States

OHIO OIL CO.
(Effective August 1, 1933)

Lima	$.85
Illinois	.77
Princeton, Ind.	.77
Plymouth	Shut in
Western Kentucky	.73
Midland, Mich. (Aug. 7, 1933)*	.80
Somerset, Ky. (Aug. 4, 1933)	.77
Hart County, Ky. (Aug. 4, 1933)	.85
Muskegon, Mich. (Mar. 27)	See note

*Posted by Pure Oil Co. Producers Pipe Line Co. pays 5 cents per barrel over Pure Oil Co.'s posted price. Muskegon: All companies pay $1 per barrel effective March 27. Somerset, Ky., crude purchased by Ashland Refining Co., Ashland, Ky., and posted price includes premium. Hart County, Kentucky, crude purchased by Stoll Refining Co.

Canada

Ontario (Jan. 18, 1933):	
Petrolia*	$1.75
Oil Springs*	1.52
Turner Valley†:	
Crude oil, 31-35.9° (Jan. 24, 1933)	1.41
Crude oil, 36-49.9° (Jan. 24, 1933)	1.96
Crude oil, 50° up (Jan. 24, 1933)	2.41
Discolored naphtha (Jan. 24, 1933)	2.53
Crude naphtha (Jan. 24, 1933)	2.82

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$0.422

*F.o.b. ship, based on June transactions and exclusive of production and export taxes and bar dues.

California Crude Oil Prices

STANDARD OIL CO. OF CALIFORNIA
(Effective June 26, 1933)

For current purchases of crude oil at the well (unless otherwise specified). (All gravities above those quoted take highest price offered in that field.

	Signal Hill	Seal Beach, Alamitos Heights	Huntington Beach	Inglewood	Playa Del Rey*	Olinda-Brea Canyon	Athens, Rosecrans, Dominguez	Torrance	Richfield	Whittier, La Habra	Montebello	Coyote Hills	Santa Fe Springs	Midway-Sunset, Elk Hills, Buena Vista	Lost Hills	Coalinga
14-14.9	$0.55	$0.55	$0.55	$0.55	$0.55	$0.55	...	$0.55	$0.55	$0.55	$0.55	$0.55	...	$0.52	$0.52	$0.52
15-15.9	.55	.55	.55	.58	.55	.58	...	.55	.55	.55	.55	.55	...	.52	.52	.52
16-16.9	.55	.55	.60	.61	.59	.61	...	.57	.55	.57	.55	.55	...	.52	.52	.52
17-17.9	.57	.55	.63	.64	.61	.64	...	.60	.59	.60	.55	.57	...	.52	.52	.52
18-18.9	.60	.56	.65	.67	.64	.67	...	.63	.63	.63	.55	.60	...	.52	.56	.52
19-19.9	.63	.60	.68	.70	.67	.69	...	.65	.66	.65	.55	.63	...	.54	.59	.52
20-20.9	.66	.63	.71	.73	.70	.72	...	.68	.69	.68	.55	.65	...	.57	.62	.52
21-21.9	.69	.67	.73	.77	.73	.75	...	.70	.72	.71	.58	.68	$0.60	.61	.65	.56
22-22.9	.71	.70	.76	.80	.76	.77	...	.73	.75	.74	.60	.71	.64	.65	.68	.59
23-23.9	.74	.73	.79	.83	.79	.80	$0.68	.75	.78	.76	.64	.73	.67	.69	.70	.61
24-24.9	.77	.77	.81	.86	.82	.83	.71	.78	.82	.79	.67	.76	.70	.72	.73	.64
25-25.9	.80	.80	.83	...	.85	.86	.75	.80	.85	...	.71	.79	.73	.76	.76	.67
26-26.9	.82	.83	.86	...	.88	.88	.79	.83	.88	...	.75	.82	.76	.80	.79	...
27-27.9	.85	.87	.88	...	...	.91	.83	...	.92	...	...	.84	.80	.83	.81	...
28-28.9	.88	.90	.91	...	...	.94	.86	...	.95	...	...	.87	.83	.87	.84	...
29-29.9	.90	.93	.93	...	...	...	.89	...	.98	...	...	.90	.86	.91	.87	...
30-30.9	.93	.97	.96	...	...	...	.93	...	...	...	...	.93	.89	.95	.89	...
31-31.9	...	...	...	...	...	...	.97	...	...	...	...	.95	.92	.98	...	...
32-32.9	...	...	...	...	...	...	1.00	...	...	...	...	.98	.96	1.02	...	...
33-33.9	...	...	...	...	...	...	...	...	...	...	...	1.01	.99	1.06	...	...
34-34.9	...	...	...	...	...	...	...	...	...	...	...	1.03	1.02	...	...	...
35-35.9	...	...	...	...	...	...	...	...	...	...	...	...	1.05	...	...	...
36-36.9	...	...	...	...	...	...	...	...	...	...	...	...	1.08	...	...	...
37-37.9	...	...	...	...	...	...	...	...	...	...	...	...	1.11	...	...	...
38-38.9	...	...	...	...	...	...	...	...	...	...	...	...	1.14	...	...	...

Elwood—F.o.b. ship, 33-33.9 degrees, 91 cents; 34-34.9, 94 cents; 35-35.9, 97 cents; 36-36.9, $1; 37 degrees and over, $1.03.
Kettleman Hills—33-33.9 degrees, 76 cents; 34-34.9, 78 cents; 35-35.9, 80 cents; 36-36.9, 82 cents; 37-37.9, 84 cents; 38-38.9, 86 cents; 39 degrees and over, 88 cents.
Newhall, McKittrick and Kern River—14 degrees to 19 degrees and over, 52 cents.
Wheeler Ridge—14 to 20.9 degrees, 52 cents; 21-21.9, 55 cents; 22-22.9, 57 cents; 23-23.9, 60 cents; 24-24.9, 63 cents; 25 degrees and over, 66 cents.

The Union Oil Co. met all Standard Oil Co. of California prices in fields where both companies purchase, and posted as follows in East Coyote: 14 to 15.9 degrees, 55 cents; 16-16.9, 57 cents; 17-17.9, 60 cents; 18-18.9, 62 cents; 19-19.9, 65 cents; 20-20.9, 68 cents; 21-21.9, 71 cents; 22-22.9, 74 cents; 23-23.9, 76 cents; 24 degrees and over, 79 cents. Santa Paula, 14 to 18.9 degrees, 55 cents; 19-19.9, 57 cents; 20-20.9, 60 cents; 21-21.9, 62 cents; 22-22.9, 65 cents; 23-23.9, 67 cents; 24-24.9, 70 cents; 25-25.9, 72 cents; 26-26.9, 75 cents; 27-27.9, 77 cents; 28-28.9, 80 cents; 29-29.9, 83 cents; 30 degrees and over, 85 cents. Orcutt, 14 to 18.9 degrees, 53 cents; 19-19.9, 54 cents; 20-20.9, 57 cents; 21-21.9, 61 cents; 22-22.9, 65 cents; 23-23.9, 69 cents; 24-24.9, 72 cents; 25-25.9, 76 cents; 26 degrees and over, 80 cents. Lost Hills and Belridge schedule same as that of the Standard Oil Co. of California in Lost Hills; Mount Poso, Kern River, McKittrick schedule same as Standard's Newhall, McKittrick and Kern River schedule except that Union Oil Co. posts 47 cents for 11 to 13.9 degrees, inclusive. Union Oil Co.'s schedule also posts 47 cents per barrel for 11 to 13.9 gravity in Coalinga, Midway-Sunset, Elk Hills and Buena Vista Hills.

Texas Co. effective June 26, 1933, met Standard Oil Co. of California prices in Signal Hill, Alamitos Heights, Huntington Beach, Torrance, Richfield, Montebello-North Whittier, Santa Fe Springs, and pays following prices in Shiells Canyon, South Mountain and Santa Paula: 14 to 18.9 degrees, 55 cents; 19-19.9, 57 cents; 20-20.9, 60 cents; 21-21.9, 62 cents; 22-22.9, 65 cents; 23-23.9, 67 cents; 24-24.9, 70 cents; 25-25.9, 73 cents; 26-26.9, 75 cents; 27-27.9, 77 cents; 28-28.9, 80 cents; 29-29.9, 83 cents; 30 gravity and over 85 cents.

Associated Oil Co., effective June 26, 1933, adopted Standard Oil Co. of California's prices with a few reservations in the upper brackets. In Huntington Beach the highest price is 86 cents for 26 degrees and over. In Seal Beach and Alamitos Heights, top price is 85 cents for 26 degrees and over; Coyote Hills, top price is 73 cents for 28 degrees and over. In Richfield, top price is 85 cents for 25 degrees and over; Torrance, top price is 80 cents for 25 degrees and over; Santa Fe Springs, top price is $1.05 for 35 degrees and over; Midway-Sunset, Elk Hills and Buena Vista Hills, top price is 96 cents for 30 degrees and over; the Associated Oil Co. also posts 47 cents per barrel for 11 to 13.9 gravity oil in McKittrick, Kern Front, Kern River, Midway-Sunset, Elk Hills, Buena Vista Hills and Coalinga.

General Petroleum Co., effective June 26, 1933, posted same prices as Standard Oil Co. of California with some reservations in the upper grades in some fields and in lower grades in one field: Midway-Sunset, top price is 95 cents for 30 degrees and over; Alamitos Heights, top price of 83 cents for 26 degrees and over; Santa Fe Springs, bottom price of 76 cents for 24-24.9; Richfield, top price of 85 cents for 25 degrees and over; Brea Canyon, Olinda, top price of 85 cents for 25 degrees and over; Torrance, top price of 80 cents for 25 degrees and over.

Late Fields

OKLAHOMA

Stanolind Oil & Gas Co. has rig up for No. 1, C NW SE SE Section 6-18-5, Payne County.

Vaughn and others' No. 1, C NW NE SW, Section 33-7-4, Pottawatomie County, found Viola lime at 4,092 feet, dolomite at 4,170-99 feet, total depth. It was swabbed 12 hours and produced 70 bbls. which came from the Viola lime.

Boettcher and others' No. 3, C NW SE SE, Section 9-7-8, West Holdenville Field, got sand at 2,927-34 feet, and oil rose in the hole 1,600 feet. It was swabbed through tubing and made 18 bbls. in one hour.

Amerada Petroleum Corp. was digging cellar for No. 1, C NE NE NW, Section 6-6-5, in the Sacred Heart area, Pottawatomie County.

Stewart and others' No. 1, C NE NE SW, Section 27-6-5, got Viola lime at 3,575-80 feet and a little gas showing in the cuttings. Pipe will be run.

Phillips Petroleum Co.'s No. 2, C E half SW SE NW, Section 15-11-3w, Oklahoma City Field, got checkerboard lime at 5,448 feet, set 6-inch casing at 6,438 feet and was drilling in sand at 6,462 feet.

GULF COAST

HOUSTON, Tex., Aug. 22.—At Tomball, Harris County, Humble Oil and Refining Co. completed its No. 1 Schultz, a half mile north of the discovery well, as the best producer so far in the field. The well came in flowing 43 barrels an hour on a half-inch choke from sand at 5,566 feet. It was choked back after cleaning and in the first 24 hours made 330 bbls. of pipe line oil through a three-sixteenths-inch choke.

Magnolia Petroleum Co. again failed to make an oil producer in its No. 1 Rudel, which was completed a second time Sunday as a gasser, making an estimated 1,500,000 feet of gas daily, from sand at 5,556 feet. Approximately 60 gallons of distillate an hour is being recovered. The well, originally completed as a gasser at 5,528 feet, had been deepened in an effort to pick up the oil pay. It deepened to 5,610 feet where it found salt water and then plugged to its present depth where it was in saturation. Although having a small margin to play on operators had expected a producer. It is located a mile north of the discovery well.

Same company's No. 1 Petrich, east offset to the Rudel well, which was killed 10 days ago to work over in an effort to shut off some of the gas, is in process of completion again at its same total depth of 5,587 feet but with 8 feet of the top cut off. While being washed Monday packer collapsed.

MAY SUPPLY LANSING, MICH.

LANSING, Mich., Aug. 19.—Alfred H. Doughty, former mayor of Lansing, announced he is negotiating on proposal to supply natural gas from the Central Michigan Field to Lansing. He said he would apply to the Lansing council for a franchise.

The proposed pipe line, planned by a company to be known as the Central Michigan Natural Gas Corp., will extend from the Mount Pleasant Field to the capital, he said. Mr. Doughty said he was prepared to guarantee a minimum supply equal to five times the city's normal maximum requirements. Mr. Doughty, a partner in several oil and gas wells in the Mount Pleasant Field, is drilling near the outskirts of Lansing where he believes he will locate commercial supplies of gas.

TEXAS HEARING POSTPONED

AUSTIN, Tex., Aug. 21.—The Texas Railroad Commission has postponed indefinitely the statewide oil proration hearing scheduled for today, Lon A. Smith, chairman, said at the suggestion of Commissioner Ernest O. Thompson, now in Washington attending the final sessions of the oil code conference. Thompson said it would be advisable to postpone the hearing until the commission had time to study the code's provisions.

Drilling Contractors Consider Code and Emphasize Difficulties in Operation

DALLAS, Tex., Aug. 21.—Approximately 70 drilling contractors from Louisiana, Arkansas, Texas and New Mexico attended the meeting at Dallas to organize the Texas-Louisiana-Arkansas Drilling Contractors Association and draft a code for their industry.

Drilling of oil wells by contract, members of the association point out, has certain limitations the greatest of which is the periods of shut down when drilling is slack and tools have to be stacked and the drilling crews laid off temporarily. Such periods come intermittently and a contractor can hardly afford to pay the crews during these periods of no work. In writing a code for the industry these slack times have to be considered when framing the number of hours a man shall work and the amount of pay he can draw.

M. J. DELANEY

Number of hours per day or week and amount of pay the workers will draw are the principal stumbling blocks in working out a code. The majority of the contractors feel it is almost economically impossible to have four tours of workers, each tour covering six hours each day. The majority feel that three tours of duty will be the best for all concerned although not as many unemployed men can be put back on the job. The contractors at the meeting emphatically expressed themselves as exceedingly desirous of putting as many men back to work as possible.

The majority of the contractors now are running two tours of duty per day, 12 hours each, and putting two more crews on a job would cause large possible losses to the owners of the rigs under certain conditions. Also if four crews are worked on each well each man would draw less per week than if three crews were working and during shut downs when the crews were laid off none of the members would have saved sufficient money to tide them over the slack work period. This is another argument in favor of only three crews per day instead of four.

The association practically adopted the code previously adopted by the Kansas and Oklahoma contractors, with a few exceptions. When the Texas-Louisiana-Arkansas Association finally works out all the details of its code it will be submitted to the Kansas-Oklahoma group, all of which will combine to form what will be known as the Mid-Continent Group.

Offices of the southern group will be in the Tower Petroleum Building, Dallas. M. J. Delaney of Dallas was elected president of the association and W. D. McBee as secretary. Mr. McBee is connected with Mr. Delaney in the drilling contracting business. Mr. Delaney was permanent chairman of the meeting and W. L. Todd of Dallas, vice chairman.

Four vice presidents were elected by the association, each representing a district: E. A. Showers of Houston, Tex.; A. F. Lanier of Shreveport, La.; T. S. Schroeder of Dallas, Tex., and George Barham of Shreveport, La. The latter will represent Arkansas.

Fifteen directors were elected: Capt. A. T. McDannald, Electra; T. S. Schroeder, Dallas; Warren L. Todd, Dallas; P. R. Bond, operating in East and North Texas; John R. Black, Dallas; J. Alvin Gardner, Dallas; M. J. Delaney, Dallas; E. A. Showers, Houston; H. W. Bass, Dallas; Bob Allison, Shreveport; W. B. Hamilton, Wichita Falls; A. R. Dillard, Wichita Falls; J. M. Loffland, Fort Worth; Arch Rowan, Fort Worth and A. A. Buchanan, San Antonio.

The code framing committee follows: J. M. Loffland, Fort Worth; Al Buchanan, San Antonio; A. R. Dillard, Dallas; Harry Bass, Dallas; George McQueen, Fort Worth; Carl B. King, Houston; E. A. Showers, Houston; R. J. Black, Dallas; R. H. Wheelis, Shreveport; George Echols, Houston; Gus Cree, Pampa; Arch Rowan, Fort Worth; J. B. Bond, Longview; W. B. Ray, Shreveport; J. C. Tippett, Shreveport; R. E. Allison, Shreveport; C. J. Crampton, Dallas; W. L. Todd and E. S. Heyser, Dallas, and President Delaney, ex-officio.

The code drawn by the Kansas and Oklahoma contractors was presented at the meeting by Thomas D. Phillips, secretary-treasurer of the Oklahoma-Kansas organization.

A meeting will be held by representatives of the Oklahoma and Kansas, and Texas-Louisiana-Arkansas divisions in the near future to co-ordinate their codes.

Transfer of Properties in Haldimand Gas Field

CHATHAM, Ont., Aug. 19.—In the Haldimand gas field, Continental Gas Corp. of Toronto has concluded negotiations for taking over the holdings in Walpole Township of the Walpole Syndicate, including Walpole's No. 1 recently brought in with an initial open flow of 100,000 feet a day and Walpole's No. 2 drilling test. Drilling on No. 2 is being continued in charge of P. L. Jackson of the Walpole syndicate, and at last reports a considerable gas flow had already been encountered. The Walpole Syndicate, formed in 1932, held a number of leases in the proven area of the Haldimand Field, and the Continental Gas Corp. is planning to continue systematic development of the acreage. The Continental Corp. has recently acquired acreage in Polk County, Texas, south of the East Texas fields, and in an area now being tested by some of the larger companies. It has also acquired potential gas acreage from the Homestead company in the Canandaigua Field in New York State.

The Azoff Natural Gas Co. of Preston, Calif., which at one time operated extensively in the Haldimand and adjacent gas fields, has sold its properties and distributed the assets among its shareholders and is applying for surrender of its Ontario charter.

Near Attercliffe, in Haldimand County, Sam McKechnie is drilling a test for gas on the George Jones farm.

KANSAS GAS LINE

YOUNGSTOWN, Ohio, Aug. 21.—The Youngstown Sheet and Tube Co. has started production on an order for approximately 6,000 tons of 18-inch pipe for delivery to the Northern Gas and Pipe Line Co., to connect the company's Rush County, Kansas, gas field with its main line in that vicinity.

Complete Text of Code for Petroleum Industry

(Continued from Page 12)

date of shipment net 30 days, 1 per cent on sight draft payments.

Truck train deliveries, from refineries and terminals or bulk plants to jobbers' bulk plants (3,500 gallons or over), 1 per cent 10 days from date of shipment net 30 days, 1 per cent on sight draft payments.

In tank wagon deliveries: To resellers, load to load or net 15th proximo.

To consumer, net 15th proximo.

3. Lubricating oil and grease sales: In tank car and drum car shipments—Unbranded oils and greases, 1 per cent 10 days from date of shipment net 30 days, or 30, 60 or 90-day trade acceptance.

Branded oils and greases, 1 per cent 10 days from date of shipment net 30 days, or 30, 60 or 90-day trade acceptance.

L.C.L. shipments: All oils and greases, 1 per cent 10 days or net 15th proximo.

Truck and tank wagon deliveries: All oils and greases, 1 per cent 10 days net 15th proximo.

Service station deliveries: Coupons or payments. Net in 30 days.

Adoption of Code Results in Higher Oklahoma Prices

(Continued from Page 23)

The prospect of higher crude oil prices has stimulated the demand for gas oil cracking stock and the demand for UGI material also has increased.

Prices on fuel oils are unchanged but the tendency in all grades is toward higher levels. Buyers are slow in accepting the higher prices asked but the refiners' position is strong due to limited material on hand and it is predicted that these products will work toward higher levels during the fall months.

Lubricants and Wax

A check of manufacturers the first of the week did not reveal any important changes in prices for cylinder stocks, neutral oils and wax. It is predicted that the larger companies will shortly announce higher retail prices for motor oils and this will be passed on down to the tank car markets. During the past year many distributors to meet competitive conditions reduced their retail prices on motor oils 5 or more cents per quart. These prices it is said are to be returned to their previous levels.

UMPIRE'S TULSA BRANCH

The proration division of the Oklahoma corporation commission will shortly establish a branch of the state umpire's headquarters in Tulsa for the purpose of receiving inquiries and giving information concerning the administration of proration in the Seminole area and other eastern and northeastern fields of the state. It is not yet known who will be in charge of the office or in what building the office will be located.

MAGNETIC STORM

Tucson, Ariz., observatory of the U. S. Coast and Geodetic Survey report a moderate magnetic storm started at 9 a. m. (C.S.T.) on the 18th and ended at 8 a. m. (C.S.T.) on the 19th. Their telegram follows:

"Storm began eighteenth. Fifteen. Moderate."

"Storm ended nineteenth. Fourteen."

LEON GAS CORP.

OLEAN, N. Y., Aug. 19.—The Leon Gas Corp., recently chartered with a capital of $200,000, with headquarters in Leon, N. Y., has plans for development of a potential natural gas field in Cattaraugus County. Principals of the new concern are Bert J. Dorsey and Richard Burgett. The company plans an extensive drilling campaign and will seek natural gas from the white Medina formation on several structures in the county.

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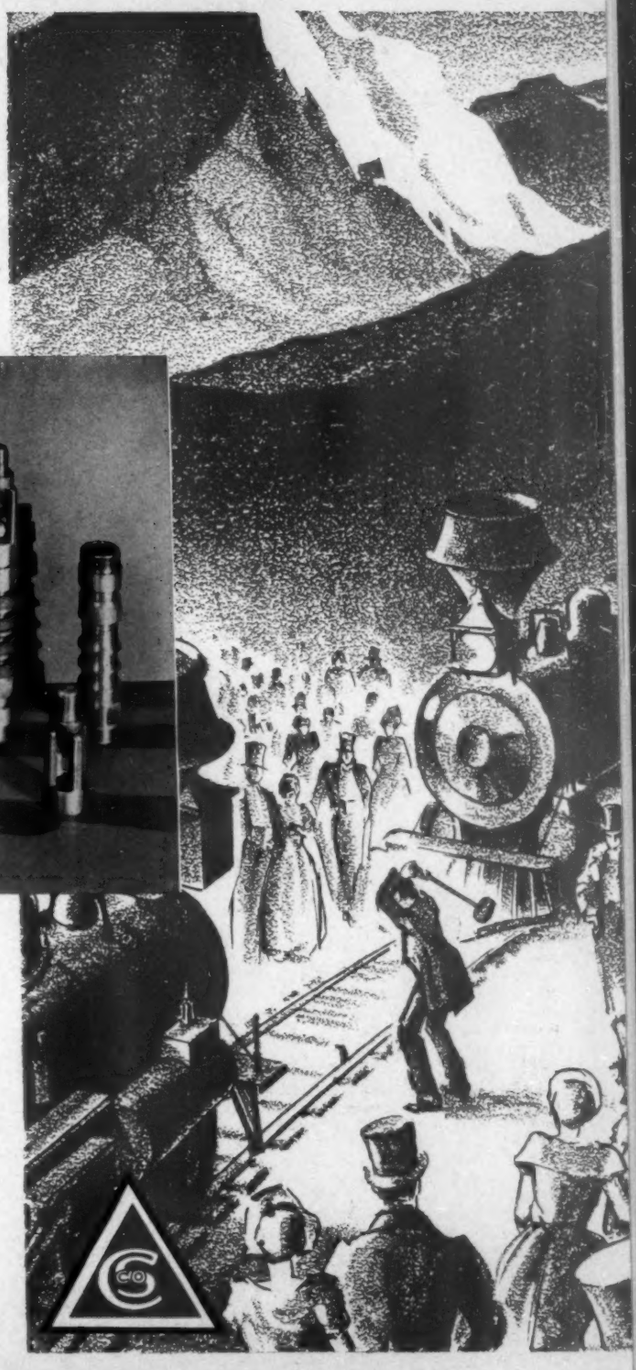

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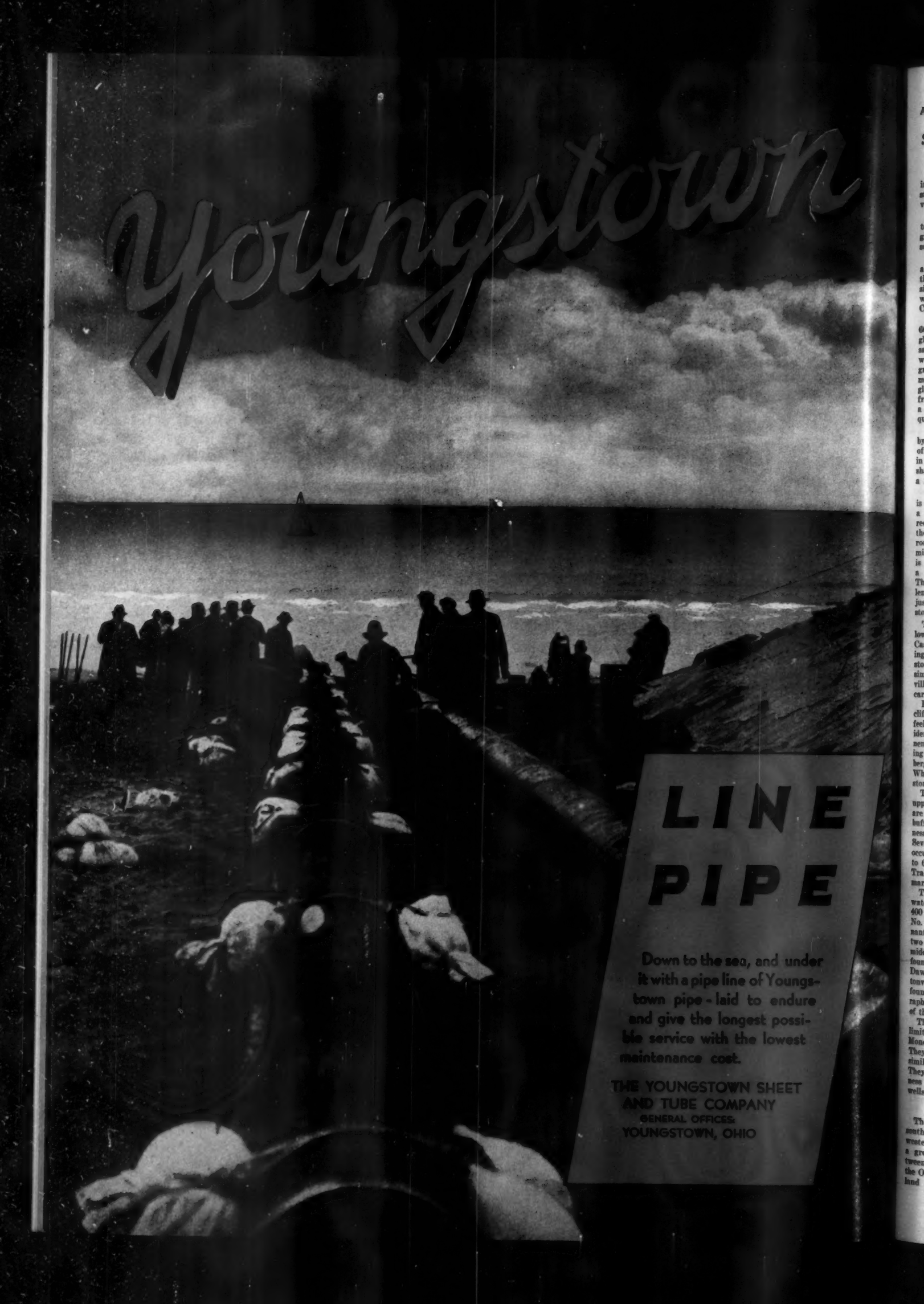
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GENERAL OFFICES:
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Study Southwest Kentucky for Oil and Gas Showings

(Continued from Page 18)

ing zone at Morton's Gap is in a sandstone of the Tradewater beds of the Pottsville group.

Also the natural gas from the Earlington gas field is the lower Caseyville conglomerate, the base of the Pennsylvanian series and the Pottsville group.

The Pottsville beds overlie most of the area except the inlies of Chester beds that are brought to the surface by erosion along faults or folds. On the south where the Pottsville beds are absent, the Chester and the older beds are exposed.

The Pottsville measures are around 600 feet thick. The lower Caseyville conglomerate is 50 to 125 feet thick. The sands are fairly coarse grained and weather, white, red brown or buff. The grains are pure quartz iron stained in many places. The lower part of the conglomerate carries pebbles ranging in size from a small pea to nearly the size of a hen's egg. These pebbles are of polute quartz.

In places the conglomerate is divided by 20 to 40 feet of dark sandy shales often carbonaceous at the base, verging in thickness from 30 to 40 feet. This shale is so variable that it is not given a member name.

Above the lower Caseyville sandstone is what I designate the Caseyville shale, a well-marked gray shale that weathers reddish, from 80 to 100 feet thick along the Piney Creek and in the Mount Hebron district, but only 50 feet thick 1 mile east of Dawson Springs, where it is exposed in the heart of a sharp fold; a water well there gives the thickness. This shale carries some thick sandstone lentils, also there is a coal bed at its base just on top the lower Caseyville sandstone.

The contacts of this shale with the lower Caseyville and with the upper Caseyville sandstone assist in determining structure. The upper Caseyville sandstone is 90 to 110 feet thick, and is quite similar in character to the lower Caseyville sandstone with the exception that it carries far less conglomerate.

Both these sandstones are prominent cliff-makers in this area, which has, I feel certain, led to some confusion in their identification. They occur most prominently south of Dawson Springs, extending from Farmersville to Weir, Muhlenberg County making a rough topography. Where dissected by streams the sandstones form sharp cliffs.

The Tradewater beds lie above the upper Caseyville sandstone. These beds are predominantly shale, light gray to buff and reddish brown in color, thickness of the formation is 200 to 300 feet. Several sandstones 15 to 25 feet thick occur in the section. The No. 6 coal, 4 to 6 feet thick, is at the very top of the Tradewater beds. The topography is marked, but not rugged.

The Allegheny beds above the Tradewater in the Carbondale formation are 400 feet thick and carry the No. 9 and No. 11 coals. These beds are predominantly light colored shales and sands with two limestones, 3 to 4 feet thick at the middle and top. The Carbondale beds are found exposed in the coal basin north of Dawson Springs and extend to the Nortonville-White Plains area. Hills are found throughout this belt, but the topography is more rolling than the topography of the Pottsville beds.

The highest beds found in the northern limits of the area discussed belong to the Monongahela and Conemaugh groups. They are coal bearing sediments, quite similar in character to the Carbondale. They are 800 feet more or less in thickness and part of them show in several wells drilled north of Madisonville.

Structural Geology

The area discussed here lies on the southern edge of the Illinois-Indiana-western Kentucky Coal Basin, which is a great structural trough that lies between the LaSalle anticline to the north, the Ozark uplift to the west, the Cumberland River uplift on the southwest, and the Cincinnati arch to the northeast, east and southeast.

The Coal Basin is filled with sediments ranging from the exposed Pennsylvanian measures to the deep underlying Ordovician and older beds. Beds older than Pennsylvanian outcrop around the edges of the basin on the west, south and east.

On the south edge of the Western Coal Basin, a series of folds and faults roughly paralleling one another cross the basin from east to west. The faults are associated in numerous places to form faulted anticlines, also there are some anticlines that are not faulted, or only slightly so.

The faults are principally of the normal type with downthrows generally to the south. The prominent faults have been mapped by the United States and Kentucky geological surveys, but not studied in detail. The most marked faulting occurs near the contact of the Pottsville and the underlying Chester beds on the southern edge of the area discussed. The known lines of folding and faulting are briefly listed below.

The Clardy fold and fault is a sharp anticline which at places is heavily faulted. The dips range from 5 to 40 degrees, the fold at places being quite sharp and narrow. At several places where the fold is cut by a fault the throw is at least 200 feet, perhaps more.

This fold can be traced from near Claxton to the railroad cut 1 mile north of Crofton, where it loses its identity. Another fault extends northeastward from the faulted fold shown in the Crofton Railroad cut. This fault has a normal downthrow to the south of 150 to 200 feet and can be traced 5 miles to a place where the fault dies out and a broad fold persists for several miles. The eastern extent of this fold has not yet been ascertained. It has been called the "Sharber fault," but that is incorrect. Highs are found along this fold on Clifty Creek south of Macedonia, at Pooles' Mill, at Adams School house and 1½ miles southwest of Wynn; other highs will no doubt be found.

The next movement north of the Clardy-Crofton cut folding, is a fault that extended en'echelon eastward from the Claxton fault zone (a faulted fold) through Piney Creek and Clifty Creek, north of Franklins' Store and extends eastwardly. It is traced south of Collins Bridge and north of Castleberry School, and continues through and beyond the small town of Empire on the Illinois Central Railroad to join the Sharber's Store fault.

Excellent Traps for Oil

This is a line of faulting and folding with some excellent traps for oil and gas along its extent. I call this the Castleberry-Sharber's Store anticline and fault. Highs are found on Piney, on Clifty and on Sandy Creeks, west of Collins Bridge; another high occurs near the Castleberry School; still further east near McFarland Creek another high occurs.

The third line of movement is an eastward plunging anticline with little faulting along its axis. That anticline extends from Flynn Creek through Montgomery Creek, to a point just south of the Piney Grove School where it crosses the Piney Ridge fold to carry slightly northeastward crossing Piney Creek, then through the Government Hospital Reservation just north of Bethel Church, and thence crosses the Tradewater River at a point 1 mile north of Messmores Bridge. I have not traced it further east. Structural highs are found on Flynn Creek, on Piney Ridge, and on the Tradewater River.

The fourth line of movement recognized is the fold and faulting extending from Flynns Fork eastward through Dawson Springs into the Government Reserve. Two high places are recognized, one on Flynns Fork, the other, 1 mile east of Dawson Springs on the Tradewater River. Beds of the upper Chester are found on Flynn Creek, beds of the Caseyville shale are exposed on the Tradewater River. This fold probably persists eastward, but has not been traced beyond the east side of the government reservation. This fold is cut by the Dawson fault on the South and by the St. Charles fault on the north.

The fifth line of movement now recognized is the Bishop fault, extending from the point of 2½ miles south of the Poe well, eastward to Morton's Gap and is a line of folding and faulting that has not yet been investigated fully. Two highs are definitely recognized. The Poe oil well and the Earlington gas field occur along this fault line.

The sixth line of movement definitely known includes the Bethel faulted and folded zone extending from Kirkwood Springs on the west to half way between Earlington and Madisonville on the east.

Between the Bishop and the Bethel faults, anticlinal or dome structures will unquestionably be found, also north of this area several folds are reported.

Favorable Conditions

It must be noted here that careful study of the Dawson and the St. Charles faults may reveal conditions favorable for oil accumulations for all the other faults have high and low places along their strike.

Other folds and faults will unquestionably be discovered when a full detailed mapping of this area has been completed.

Another interesting feature of all folding and faulting is the general eastward plunge of the structures. The most westerly extensions of the folds and faults all start in beds of the upper Chester group and the farther northeast the beds extend the deeper they generally carry in the columnar section. The folds and faults are not straight, but sinuous in their meanderings.

The average eastward plunge ranges from 50 to 60 feet per mile. The Clardy, the most southerly fold, within the area outlined on the map, starts in beds of the Chester and the Pottsville groups, while the Beulah fold and fault the most northerly starts in Tradewater beds on the west and will be in beds of the later series to the east. Carried far enough west outside present limits, the Beulah fold and fault extends into Chester beds.

Within the area mapped there is a general deepening eastward and also northward. The regional dip in general can be classed as slightly northeast. The average regional dip is 50 to 60 feet per mile, but locally in the folds and faults is far higher. Dips as high as 40 degrees are known, especially on the Clardy fold. The dips on other folds range from 1 to 20 degrees, mostly as low as 1 to 5 degrees.

Detailed mapping later will bring out these features. The dips or hades of the faults ranged from 50 to 70 degrees. The strikes are usually N. 80° E.

Bell Oil and Gas Co. Has Modernized Cracking Unit

(Continued from Page 14)

91 per cent of the total production as 9-pound Reid cracked motor fuel and 9 per cent typical refinery absorption gasoline.

All heat is taken from the cracking still operations, namely, waste heat. No additional load is thrown on the furnace and no outside heat is used except steam to operate four small Hyvol pumps. Foxboro instruments and Fisher level controllers are used. The simplified unit has been built at a greatly reduced initial cost and the cost of operation has been relatively low with results fully satisfactory.

Diesel driven Worthington hot oil charging pump. The drive shaft shown in the lower right hand quarter of the picture passes through the sheet metal building which houses the engine

Chicago Area Optimistic; Refiners Dubious of Code

(Continued from Page 29)

2⅝ cents, and the 42-44 water white kerosene was quoted at 2⅝ to 2¾ cents.

Distillates and Fuel Oils

Straw and prime white distillates advanced an eighth of a cent to a quarter of a cent, with refiners apparently determined to hold their material for a better market. The materials Monday were offered as follows: 32-36 straw distillate, 2 to 2⅛ cents; 38-40 straw distillate, 2⅛ to 2¼ cents, and prime white 38-40 distillate, 2¼ to 2⅜ cents. Industrial gas oil advanced to a range of 1½ to 1⅝ cents in spite of reports that reduced cracking operations meant increased supplies of this material. Fuel oil prices, zero materials, were strong and less material appeared available. Shell Petroleum Corp. advanced the 28-30 zero to 82½ cents, and the 22-26 zero to 62½ cents, while withdrawing from the other fuel oil markets.

PLAN TAYLOR COUNTY TEST

E. H. Sabra of Denver, Colo., who was interested in the development of the Greasewood Pool, in Weld County, and J. D. McFadden of Denver, have acquired a solid block, with the exception of one 80-acre tract, of 10,000 acres in southwestern Taylor County, Texas, and have negotiations under way for the drilling of a test well.

NEWS FOR PETROLEUM REFINERS

U. S. Court Refuses to Halt Federal Enforcement Order

WASHINGTON, D. C., Aug. 18.—The first court test case of the NRA has been decided in favor of the powers being exercised by President Roosevelt. This case, brought in the Supreme Court of the District of Columbia by a group of oil refiners, headed by F. W. Fischer of Tyler, Tex., asked for an injunction to halt Secretary Ickes of the Interior Department from enforcing orders prohibiting the interstate shipment of crude oil produced in violation of state regulations. Justice Joseph Cox ruled that the orders issued by Secretary Ickes look as if they are the means of carrying out the executive order of the President and he denied the plea for an injunction. Mr. Fischer gave notice that he would appeal to the higher court.

Justice Cox said the case presents questions of far-reaching importance and he would like to study it at length, but he believed passing upon it promptly is more important in view of the emergency that faces the country.

Mr. Fisher claimed the order of Secretary Ickes against "hot oil" shipments was unconstitutional as it was not a regulation of interstate commerce as contemplated by the constitutional authority. Justice Cox said he believes all laws, including the Constitution, should be read in emergencies "in the light of the law of necessity."

"In the light of the law it is recognized that necessity confers rights and privileges that without the necessity might not be conferred. It is said that self-preservation is the first law and this principle in some degree at least seems to extend to governments."

The constitutionality of the act under which the President acts in carrying out the policies of the NRA was not decided by the court. Charles Fahy of the department contended that both the orders of Secretary Ickes and the NRA were constitutional.

The order in effect means that a group of small East Texas refiners will continue to operate on a greatly curtailed basis. In a few cases the plants have been shut down completely since the order was issued by the Federal Government which aims to prevent the movements of crude oil produced in excess of allowable production in East Texas and other points.—C. E. K.

REFINERY EMPLOYMENT GAINS

Refinery employment registered a 1.7 per cent increase in number of men on the payroll during June compared with May, according to the latest report of the Department of Labor but there was no change in the amount of money paid them in salaries and wages. The number of men employed remained the same as June, 1932, but the amount of the payroll was 8.1 per cent less than a year ago.

Using the 1926 average for the number of men employed and the amount of the payroll as an index in each case, and assigning this a value of 100 the June, 1933, index for the number of men employed stands at 64.7 and the amount of the June payroll at 54.6.

These indexes for refining compare favorably with the standing of all employment registered in the report. In June the index for the total number of men employed by all industries was 62.8 while the amount of the payroll was 43.1 per cent. Total employment increased 9.2 per cent in the 12-month period and the amount of the payrolls increased 9.7 per cent.

Standard Oil of New Jersey and Socony-Vacuum to Form Far East Company

Plans for the organization of a new company to take over the operations of the Standard Oil Co. of New Jersey and the Socony-Vacuum Corp. in the Far East are expected to be announced before the end of the month. It is reported that the new company will have a capitalization of $100,000,000 with all the stock held by the two companies and the management in charge of officers obtained from the two companies.

It is understood that George W. Walden, at present managing director of the Nederlandsche Koloniale Petroleum Maatschappij, a subsidiary of the New Jersey Standard operating in the Far East, will be an official of the new company as will W. B. Walker, a vice president of the Socony-Vacuum Corp., who has been closely associated with the corporation's marketing policies in the Far East. The company will be formed under the authority of the Webb-Pomerene act covering operations of American companies engaged in foreign trade.

The proposed amalgamation is the most important development in foreign oil operations of American companies since the Standard Oil Co. of New Jersey took over the foreign operations of the Pan American Petroleum and Export Co. (Standard Oil Co. of Indiana) last year. More recently the New Jersey Standard purchased the Union Atlantic Co. from the Union Oil Co. of California and the Atlantic Refining Co. The company is engaged in marketing petroleum products in Australia and New Zealand.

The new company, a completely integrated unit, will be a joint subsidiary in which the two big concerns will own stock in proportion to the assets contributed. The principal assets of the New Jersey company will be its producing and refining properties in the Dutch East Indies. Socony Vacuum will put in nearly all of its marketing and distributing properties that may be economically supplied from the Dutch East Indies refinery.

For several years Socony-Vacuum has obtained some oil supplies for the Far East from the New Jersey company's refinery in the Dutch East Indies. That refinery, which began operations in 1926, has a capacity of 25,000 barrels daily.

The New Jersey company has developed more than sufficient production nearby to supply the crude oil requirements for the refinery. The New Jersey company's potential daily production in the Dutch East Indies is estimated at as high as 100,000 barrels. A large part of the production is shut in. It is estimated that the New Jersey company has expended approximately $50,000,000 in its oil development in the Dutch East Indies.

Canadian Laboratory Has Hydrogenation Research

CHATHAM, Ontario, Aug. 19.—Experiments with the production of gasoline and oil from various materials by means of hydrogenation are being conducted by the fuel laboratories of the federal mines department at Ottawa, the work being in charge of Dr. T. E. Warren, research engineer.

The experiments largely follow the process worked out in Germany by Doctor Bergius. Extensive experiments have been carried on with the Athabaska tar sands. The bitumen is extracted from the sand quite easily by washing with hot water containing some chemicals. The bitumen is then subjected to enormous heat and pressure and hydrogen forced at high pressure through the melted tar. The heat and pressure combined break up the molecules of the bitumen and the hydrogen combines with some of these broken molecules to form new compounds of the petroleum type, the result depending partly on the process and partly on the subsequent distillation. In the experiments a number of variations in the process have been tried out.

Heat used is around 450° C., with pressure of 3,000 pounds to the inch. Elaborate safeguards against accident are taken, equipment being tested at more than double the required pressure. Precautions are also taken against ignition of the hydrogen used in the process; and as a precaution against the accidental substitution of oxygen for hydrogen, samples from each container are analyzed before being used. While experiments are in progress a fan is in continuous operation drawing off all gases.

The gasoline produced from the tar sands in the hydrogenation experiments is comparable to the ordinary commercial product. A good grade of gasoline is also produced from Crow's Nest Pass bituminous coals. Owing to the existing condition of the oil market, commercialization of the process is not likely in the near future; but it would be commercially feasible at somewhat higher prices.

Pennsylvania Company to Build Distillation Unit

The Pennsylvania Refining Co. has let a contract for the construction of a new distillation unit at its Titusville, Pa., refinery. The new unit, which will be used in the production of Pennsylvania Grade lubricants and light oils, will be erected by the Arthur G. McKee Co. of Cleveland, Ohio. It will take the place of present equipment which is to be dismantled.

On the site where the new still is to be erected there is now in operation what is said to be the oldest "cheese box" still in the Pennsylvania Field. This still is one of three installed by the American Oil Works, former owners of the refinery. It is to be dismantled after 58 years of continuous service.

LET SLOAN & ZOOK CONTRACT

Plans for the construction of a 1,500-bbl. distillation unit at the Warren, Pa., refinery of the Sloan & Zook Co. have been completed and work will start immediately. The unit, which will be built by the Struthers-Wells Co. of Warren, Pa., is especially designed to refine Pennsylvania grade crude oil. The unit will be used in the manufacture of lubricating stocks and light oils.

The Sloan & Zook interests, for many years prominent producers in the Pennsylvania Field, took over the Warren refinery several months ago. It formerly belonged to the Swan-Finch Refining Corp. The plant was not operated consistently for several years. Improvements in addition to the distillation unit are to be made at the refinery.

Postpone Action on Sale Covering P. & R. Refineries

CHEYENNE, Wyo., Aug. 18.—Judge T. Blake Kennedy in the U. S. District Court here this week continued until October 17 the suit in which a group of stockholders of the Producers & Refiners Corp. are endeavoring to prevent the sale of the assets of corporation to the Consolidated Oil Corp. The Producers & Refiners Corp. came under the control of the Consolidated corporation at the time the Prairie interests were merged with those of the Sinclair companies in the formation of the Consolidated, which is a holding corporation. The Prairie Oil & Gas Co. at that time owned controlling stock interest in the P. & R. Corp. The latter, at the request of the Consolidated corporation, was placed in the hands of receivers at that time and recently the parent company has endeavored to purchase all the P. & R. assets.

The action to prevent the sale is brought by a group of preferred stockholders. It is claimed that the purchase price offered by the Consolidated will only settle the debts of the company and leave nothing for the common and preferred stockholders. The properties consist of scattered production in Rocky Mountain and Mid-Continent fields, marketing outlets and two refineries located at Parco, Wyo., and Tulsa, Okla.

Judge Kennedy ruled at the conclusion of arguments in the hearing late this week that by October 17 it may be indicated whether there will be improvement in the oil industry. Several other matters in connection with the receivership are to come up on that date also.

Asking that a decision on the petition of the Consolidated to purchase assets of the P. & R. be put over until next April or May, attorneys of the stockholders' protective committee and Joseph McFeely of Steubenville, Ohio, contended that by that time improvement in the oil industry will raise the value of the Producers & Refiners' assets.

They held the pipe lines, refinery and producing companies which the company owns through its subsidiaries in Wyoming, Oklahoma, Texas, Kansas and Colorado have a potential valuation of $28,000,000.

The Consolidated attorneys value the P. & R. assets at about $16,000,000 and hold that under the expected NRA code operation of the Parco refinery and others would be more expensive.

Complete Plans to Build Plant at San Diego, Calif.

SAN DIEGO, Calif., Aug. 18.—The La Canada, Ltd., has announced plans for the construction of a refinery in this city. Contracts for the building of the refinery have been let and it is expected that work will start early next month. The refinery is the first to be built in San Diego and it is designed to furnish gasoline and other products for distribution in this city and immediate territory. The plant equipment will include skimming and cracking. The owners expect to have the plant in operation in four months.

A site has been leased from the Santa Fe railroad and docking facilities for tankers have been arranged. A three-year contract for crude oil from northern fields has been signed.

B. C. Morrison is president of the company which will build and operate the refinery. A. M. Peairs is vice president and H. M. Wright is treasurer.

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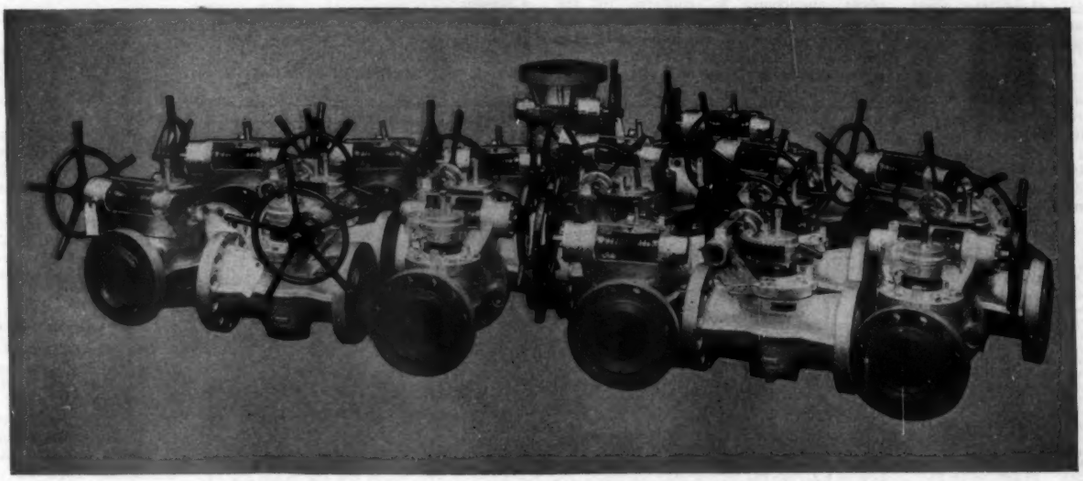

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NATURAL GASOLINE MANUFACTURE

Refiners Use 12 Per Cent Less Natural Gasoline

Refineries depending upon the Mid-Continent area for their supply of natural gasoline took 12 per cent less during the first six months of this year than during the same period last year, according to an analysis of the Bureau of Mines latest report made by the Western Petroleum Refiners Association. Production of natural gasoline in this same territory declined 11.1 per cent.

At the close of June of this year refiners held only about one-half as much natural gasoline as stocks compared with a year ago, the larger share of the reduction being due to the storing of relatively little material along the Gulf Coast. The reverse of this situation was true in the case of natural gasoline plants where stocks were 4.8 per cent higher than a year ago.

An analysis of the requirements of the various groups of refiners discloses the material reduction in the volume of natural consumed along the Gulf Coast. The Texas Coastal plants reduced their commitments 51.7 per cent and the Louisiana Coastal group reduced theirs 75 per cent.

MID-CONTINENT NATURAL GASOLINE STATISTICS—FIRST SIX MONTHS 1932 AND 1933

(Quantities in thousand gallons)

	First 6 mos. 1932	First 6 mos. 1933	Percentage change
Stocks at Plants, June 30			
Oklahoma	13,261	15,721	+18.6
Kansas	871	1,290	+48.1
Texas	10,198	8,314	—18.5
Louisiana	930	1,228	+32.0
Arkansas	205	121	—41.0
Total	25,465	26,674	+ 4.8
Production at Plants			
Oklahoma City	41,300	39,500	— 4.4
Osage County	24,200	20,300	—16.1
Seminole	60,900	46,300	—24.0
Rest of State	73,000	63,500	—13.0
Okla. total	199,400	169,600	—14.9
Kansas total	13,400	11,700	—12.7
Panhandle	87,700	83,000	— 5.4
North Texas	13,100	10,200	—22.1
West Central	44,500	41,200	— 7.4
Rest of State	33,700	37,200	+10.4
Texas total	179,000	171,600	— 4.1
Louisiana total	25,600	19,600	—23.4
Arkansas total	10,400	7,800	—25.0
Total	427,800	380,300	—11.1
Shipments From Plants			
Oklahoma	194,934	159,590	—18.1
Kansas	12,957	10,820	—16.5
Texas	174,807	169,674	— 2.9
Louisiana	25,908	10,087	—36.3
Arkansas	10,397	7,843	—24.6
Total	419,003	367,014	—12.4
Stocks at Refineries, June 30			
Okla. and Kans.	627	672	(*)
Inland Texas	294	210	—28.6
Castal Texas	10,920	5,334	—51.2
N. La. and Ark.	294	430	+42.9
Coastal La.	378	(*)	—100.0
Total	12,558	6,636	—47.2

*None.

Used by Local Refiners			
Okla. and Kans.	90,338	93,370	+ 3.3
Inland Texas	55,650	66,066	+18.7
Coastal Texas	69,972	52,206	—25.4
N. La. and Ark.	18,480	8,694	—53.0
Coastal La.	22,344	5,628	—74.8
Total	257,334	226,464	—12.0
Local Refinery Demand (Receipts)			
Okla. and Kans.	90,342	93,618	+ 3.6
Inland Texas	55,734	66,108	+18.6
Coastal Texas	69,426	48,342	—30.4
N. La. and Ark.	18,522	8,946	—51.7
Coastal La.	22,638	5,628	—75.1
Total	256,662	232,642	—13.3
Excess Production Over Local Refinery Demand			
Okla. and Kans.	122,458	87,682	—28.4
Texas	53,540	57,150	+ 6.1
La. and Ark.	*5,160	12,826	...
Total	171,138	157,658	— 7.9

*Deficit.

Natural Gasoline Is Slowly Regaining Its Importance as Source of Motor Fuel

Natural gasoline appears to be slowly regaining its importance as a source of motor fuel. During the past six months the volume produced represented a slightly larger percentage of the total motor fuel recovered from crude than during 1932 and apparently the trend of the past three years in which its relative importance declined has been reversed.

However, this change has been known to be likely based upon changes that have occurred in refinery and natural gasoline plant operations to conform to the changes in motor fuel quality and marketing practices. More specifically, the adoption of the use of tetraethyl in the second grade of motor fuel has been a strong factor in retarding the building of reforming units to produce more cracked gasoline in the short time it has been operative. This factor is important because accompanying a reforming operation there is a relatively large volume of natural gasoline produced at the refinery. This has been recognized as the principal cause for the large drop in the consumption of natural gasoline during 1932 and occurred despite the fact that natural gasoline sold below the cost of crude oil in the Mid-Continent Field during 40 per cent of the year.

As the use of tetraethyl lead is extended, there probably will be a tendency to increase the endpoint of straightrun and cracked gasolines and there will be an attendant need for a larger percentage of natural gasoline purchased from the outside. This has already been evidenced.

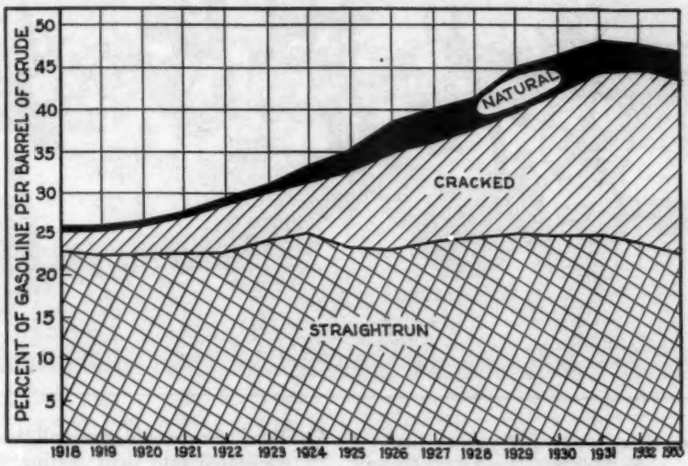
However, on the surface it appears contradictory to say that less reforming will be practiced, that higher endpoint straightrun and cracked gasolines will be produced and at the same time more natural gasoline will be needed.

If the assumption is correct that the tendency over the future will be toward higher endpoint straightrun and cracked gasolines and more natural gasolines will be used, it is obvious there will be less crude refined for the same quantity of gasoline produced. This also has been in evidence at individual plants but has not been extended far enough yet to cause a change in the figures for the country as a whole.

Another factor that appears to be operating in favor of the increased use of natural gasoline is that cracking equipment is not being added as fast as it is becoming obsolete. Each year a given cracking unit is required to operate at a slightly reduced pressure in order to provide the same factor of safety as when built. This is done unless compensating means are taken to equalize the wear and corrosion on the walls of the pressure vessels. Two years have passed since any material additions have been made to the cracking capacity of refineries in general and on the accepted basis that the average cracking unit is obsolete in five to eight years, the effect of this "holiday" in building will begin to be felt very strongly as soon as there is any upturn in gasoline consumption. Also this effect will probably decrease the yield of cracked gasoline faster than the effect of raising the endpoint will tend to increase it even over the immediate future.

In the accompanying graph the relationship between the volume of straightrun, cracked and natural gasolines produced in the United States is shown for

(Continued on Page 45)



PERCENTAGE OF GASOLINE PRODUCED BASED ON CRUDE REFINED

	Straightrun gasoline output	Cracked gasoline output	Total straightrun and cracked	Natural gasoline	Total yield per barrel of crude
1918	22.7	2.6	25.3	0.8	26.1
1919	22.5	2.8	25.3	0.8	26.1
1920	22.6	3.5	26.1	0.7	26.8
1921	22.6	4.5	27.1	0.6	27.7
1932	22.8	6.0	28.8	0.7	29.5
1923	24.0	6.0	30.0	1.0	31.0
1924	25.0	6.2	31.2	1.9	33.1
1925	23.1	9.3	32.4	2.7	35.1
1926	22.9	13.0	34.9	2.6	38.5
1927	23.8	13.2	36.0	3.9	39.9
1928	24.0	13.4	37.4	3.9	41.3
1929	24.8	14.5	39.3	4.7	44.0
1930	24.2	17.7	41.9	4.7	46.6
1931	24.6	19.7	44.3	3.9	48.2
1932	23.8	20.9	44.7	3.2	47.9
First six months 1933	22.9	20.6	43.5	3.6	47.1

New Imperial Oil Plant Operating Near Capacity

CHATHAM, Ontario, Aug. 19.—Announcement has been made by J. H. McLeod, of Calgary, western production manager of Imperial Oil, Ltd., that the company's gasoline absorption plant in the Turner Valley Field, which started operations on a partial scale last May, is now in full operation and producing one-quarter gallon of naphtha per 1,000 feet of waste gas.

At the present time some 80,000,000 feet of gas, formerly burned in the field after being run through the separators, is being daily put through the plant. From this gas flow the company is recovering about 571 bbls. of naphtha per day, equivalent to the output of two first-class producing wells.

On this basis the plant is running at capacity, but a new unit could and ultimately may be added to handle additional gas. At the present time the daily production of waste gas in the Turner Valley Field which is not being processed amounts to approximately 160,000,000 feet. A large amount of this, however, does not contain enough naphtha to justify processing. This is particularly the case with the large wells in the south end of the field, where the gas is produced under very heavy pressure and a very clean naphtha extraction is secured in the separators.

HANLON MOVES OFFICES

The Hanlon group of companies, consisting of Hanlon-Buchanan, Inc., Hanlon-Waters, Inc., Hanlon-Boyle, Inc., Hanlon Gasoline Co. and Henaghan & Hanlon, Inc., are moving their offices to the National Bank Building in Tulsa.

Within the past six months Hanlon-Buchanan, Inc., has become financially interested in six new natural gasoline plants in the East Texas, Conroe and Refugio Fields, the production from which will be utilized in their export and coastwise cargo sales through their terminals at Goodhope, La., and Houston, Tex. Four of these new plants are now in operation and the two now under construction are to be completed about October 15. These six plants, along with plants in Breckenridge, Tex., and West Virginia, which are wholly owned by this group, will have a daily production of 145,000 gallons of natural gasoline. In addition to this, Hanlon-Buchanan, Inc., has the exclusive marketing of the production from a large number of plants in the Mid-Continent Field.

AWARDS AVIATION TROPHY

Frank R. Phillips, president of Phillips Petroleum Co., has posted a $10,000 cash purse and the Frank Phillips trophy as the awards in the high speed closed course event of the coming Olympiad of the air, which will be held September 1-2-3-4 at Curtiss-Wright-Reynolds airport, northwest of Chicago. The meet forms the official competitive aviation event of A Century of Progress.

The race for the Phillips trophy, scheduled as the Labor Day feature, is a 100-mile unlimited free-for-all. It will be run over a rectangular course in full view of the stands, and is open to any type of aircraft, regardless of horsepower, that can show a speed in excess of 225 miles an hour in the qualifying dashes.

START EAST TEXAS PLANT

Construction has been started on the new 60,000,000-foot gasoline plant of the Gregg-Tex Gasoline Corp. near Willow Springs in the East Texas Field. Four 400-horsepower Clark double acting compressors will be used in the plant.

Bureau of Mines Statistics for the Month of June, 1933

SUPPLY AND DEMAND OF ALL OILS

(Thousands of barrels of 42 U. S. gallons)

	June, 1933	May, 1933	June, 1932	Jan.-June, 1933	Jan.-June, 1932
NEW SUPPLY:					
Domestic production:					
Crude petroleum	82,842	84,747	64,835	433,230	397,632
Daily average	2,762	2,734	2,161	2,394	2,185
Natural gasoline	2,669	2,776	2,812	16,309	18,681
Benzol*	126	105	81	591	625
Total production	85,636	87,628	67,728	450,130	416,938
Daily average	2,855	2,827	2,258	2,487	2,291
Imports:					
Crude petroleum	2,143	2,206	7,869	16,262	32,244
Refined products	712	653	3,605	7,015	22,276
Total new supply, all oils	88,491	90,487	79,202	473,407	471,458
Daily average	2,950	2,919	2,640	2,616	2,590
Increase in stocks, all oils	1,384	9,555	†9,487	11,477	†4,910
DEMAND:					
Total demand	87,107	80,932	88,689	461,930	476,368
Daily average	2,904	2,611	2,956	2,552	2,617
Exports:					
Crude petroleum	4,378	2,678	2,791	15,955	14,179
Refined products	5,093	5,499	6,887	32,538	43,523
Domestic demand:					
Motor fuel	37,710	33,999	39,460	179,934	183,606
Kerosene	3,115	3,005	2,128	18,950	16,711
Gas oil and fuel oil	25,343	23,527	23,164	157,132	160,878
Lubricants	1,646	1,624	3,054	7,763	19,503
Wax	126	82	81	554	509
Coke	596	528	779	4,331	4,211
Asphalt	1,310	1,231	1,391	4,738	5,157
Road oil	1,016	446	1,215	1,835	1,923
Still gas (production)	4,141	4,252	3,539	21,436	20,021
Miscellaneous	133	155	187	702	1,330
Losses and crude used as fuel	2,500	3,926	4,013	16,061	13,817
Total domestic demand	77,636	72,755	79,011	412,437	418,666
Daily average	2,588	2,347	2,634	2,279	2,300
STOCKS:					
Crude petroleum	348,197	343,588	363,783	348,197	363,783
Natural gasoline	3,763	3,966	3,897	3,763	3,897
Refined products	247,626	250,648	260,033	247,626	260,033
Total, all oils	599,586	598,202	627,713	599,586	627,713
Days' supply	206	229	212	235	249

*Based upon production of coke reported to Coal Division by those by-product coke plants that recover benzol products. †Decrease.

COMPARATIVE ANALYSES

(Thousands of barrels of 42 U. S. gallons)

	June, 1933 Total	June, 1933 Daily av.	May, 1933 Total	May, 1933 Daily av.	Jan.-June, 1933	Jan.-June, 1932
CRUDE PETROLEUM:						
Runs to stills:						
Domestic	71,521	2,384	71,006	2,290	394,685	396,417
Foreign	3,098	103	3,334	108	18,215	22,741
Total	74,619	2,487	74,340	2,398	412,900	419,158
Imports	2,143	71	2,206	71	16,262	32,244
Exports	4,378	146	2,678	86	15,955	14,179
MOTOR FUEL:						
Production	35,876	1,196	35,466	1,144	195,556	202,555
Imports	1	.....	1	.....	6	7,634
Exports*	2,619	87	2,129	69	14,852	21,251
Stocks, gasoline	50,818	.....	55,067	.....	50,818	57,661
Stocks, natural gasoline	3,763	.....	3,966	.....	3,763	3,897
Domestic demand	37,710	1,257	33,999	1,097	179,934	183,606
KEROSENE:						
Production	4,126	138	4,146	134	24,249	21,900
Imports	.....	.....	.....	.....	.....	10
Exports	368	12	610	20	3,869	5,397
Stocks	6,404	.....	5,761	.....	6,404	5,134
Domestic demand	3,115	104	3,005	97	18,950	16,711
GAS OIL AND FUEL OIL:						
Production	26,827	894	26,118	843	153,293	151,491
Transfers†	731	24	667	22	5,129	2,810
Imports	693	23	634	20	6,896	14,467
Exports	1,162	39	1,886	61	9,436	11,675
Stocks	127,721	.....	125,975	.....	127,721	132,071
Domestic demand	25,343	845	23,527	759	157,132	160,878
Railroads (Class 1)‡	(§)	(§)	3,370	109	¶16,163	¶17,969
Bunker oil	3,179	106	2,726	88	17,024	20,058
Pub. utility power plants**	756	26	724	23	4,045	3,029
Other	(§)	(§)	16,707	539	119,900	119,822
LUBRICANTS:						
Production	1,846	62	2,114	68	11,073	12,258
Imports	.....	.....	.....	.....	.....	11
Exports	633	21	653	21	3,951	3,928
Stocks	7,734	.....	8,167	.....	7,734	7,323
Domestic demand	1,646	55	1,624	52	7,763	10,503
WAX (thous. of pounds):						
Production	38,640	1,288	40,600	1,310	218,120	252,000
Imports	2,408	80	1,445	47	11,950	22,350
Exports	18,282	609	18,921	610	125,683	104,713
Stocks	112,614	.....	124,770	.....	112,614	188,536
Domestic demand	34,922	1,164	23,281	751	155,401	142,331
COKE (short tons):						
Production	154,400	5,147	145,400	4,690	786,200	885,100
Stocks	1,185,400	.....	1,176,200	.....	1,185,400	1,536,700
ASPHALT (short tons):						
Production	247,400	8,247	229,300	7,397	949,000	1,157,700
Imports (natural)	1,000	33	2,200	71	10,800	13,500
Stocks	287,600	.....	297,600	.....	287,600	408,600

*Includes benzol—7,362 bbls. in June, 1933. †Includes crude used as fuel and net transfers to fuel oil stocks. ‡Interstate Commerce Commission. §Not available. ¶January-May. ‖Laden on vessels engaged in foreign trade. **U. S. Geological Survey.

SHIPMENTS FROM CALIFORNIA TO EASTERN PORTS IN UNITED STATES*

(Thousands of barrels of 42 U. S. gallons)

	June, 1933	May, 1933	June, 1932	Jan.-June, 1933	Jan.-June, 1932
Gasoline	1,027	1,137	1,340	4,934	4,533
Natural gasoline	.....	.....	72	81	217
Kerosene	80	82	50	871	131
Gas oil and Diesel oil	.....	71	111	1,286	379
Fuel oil	73	140	.....	861	.....
Lubricants	1	1	.....	18	19
Asphalt	.....	.....	1	.....	5
Miscellaneous	1	14	14	120	40
Total	1,182	1,445	1,588	8,111	5,324

*Compiled by E. T. Knudsen of the San Francisco office of the Bureau of Mines.

NUMBER OF WELLS COMPLETED IN THE UNITED STATES*

	June, 1933	May, 1933	June, 1932	Jan.-June, 1933	Jan.-June, 1932
Oil	372	444	993	2,957	4,630
Gas	63	60	66	381	542
Dry	274	282	325	1,634	1,574
Total	709	786	1,384	4,972	6,746

*From The Oil and Gas Journal and California office of American Petroleum Institute.

PRODUCTION OF CRUDE PETROLEUM BY STATES AND PRINCIPAL FIELDS

(Thousands of barrels of 42 U. S. gallons)

	June, 1933 Total	June, 1933 Daily av.	May, 1933 Total	May, 1933 Daily av.	Jan.-June, 1933	Jan.-June, 1932
Arkansas	1,030	34	975	31	5,674	5,998
California:						
Kettleman Hills	1,855	62	1,920	62	10,824	10,896
Long Beach	2,236	74	2,371	73	13,731	14,459
San Fe Springs	1,620	54	1,663	54	9,582	11,140
Rest of State	8,634	288	8,958	289	51,271	53,849
Total California	14,345	478	14,813	478	84,408	90,944
Colorado	77	3	84	3	481	642
Illinois	357	12	313	10	1,828	2,606
Indiana:						
Southwestern	61	2	51	2	305	424
Northeastern	1	.....	1	.....	6	17
Total Indiana	62	2	52	2	311	441
Kansas	3,486	116	3,307	107	19,693	17,122
Kentucky	325	11	363	12	2,191	3,032
Louisiana:						
Gulf Coast	1,207	40	1,238	40	6,766	5,545
Rest of State	752	25	761	25	4,917	4,949
Total Louisiana	1,959	65	1,999	65	11,683	10,494
Michigan	747	16	527	17	2,734	2,917
Montana	135	4	174	5	982	1,292
New Mexico	1,051	35	1,098	35	6,443	6,718
New York	256	9	223	7	1,489	1,838
Ohio:						
Central and Eastern	252	8	259	8	1,575	1,818
Northwestern	88	3	82	3	488	555
Total Ohio	340	11	341	11	2,063	2,373
Oklahoma:						
Oklahoma City	6,029	201	4,179	135	26,942	19,231
Seminole	3,423	114	3,105	100	19,453	22,514
Rest of State	6,055	202	6,005	194	35,352	37,870
Total Oklahoma	15,507	517	13,289	429	81,747	79,615
Pennsylvania	1,060	35	1,045	34	5,984	6,436
Tennessee	1	.....	.....	.....	2	3
Texas:						
Gulf Coast	5,224	174	5,721	184	27,521	19,169
West Texas	4,724	157	5,000	162	29,146	32,698
East Texas	24,533	818	27,591	890	101,043	61,117
Rest of State	6,556	219	6,608	213	40,408	43,266
Total Texas	41,037	1,368	44,920	1,449	198,118	156,250
West Virginia	316	11	313	10	1,760	2,013
Wyoming:						
Salt Creek	569	19	596	19	3,594	4,155
Rest of State	404	14	310	10	2,045	2,742
Total Wyoming	973	33	906	29	5,639	6,897
Total U. S.	82,841	2,762	84,747	2,734	433,230	397,632

PRODUCTION OF CRUDE PETROLEUM BY DISTRICTS

(Thousands of barrels of 42 U. S. gallons)

	June, 1933 Total	June, 1933 Daily av.	May, 1933 Total	May, 1933 Daily av.	Jan.-June, 1933	Jan.-June, 1932
Appalachian:						
Pennsylvania Grade	1,761	59	1,705	55	9,992	11,187
Other (inc. Kentucky)	449	15	498	16	3,009	3,953
Lima-N. E. Ind.-Mich.	563	19	610	20	3,228	3,489
Ill.-S. W. Ind.	418	14	364	12	2,133	3,030
Mid-Continent:						
N. La. and Ark.	1,782	59	1,736	56	10,591	10,947
West Texas-S. E. New Mex.	5,733	191	6,075	196	35,413	39,222
Other (Okla., Kans., N. Tex., etc.)	50,082	1,670	50,795	1,639	242,891	201,120
Gulf Coast	6,431	214	6,959	224	34,287	24,714
Rocky Mountain	1,277	43	1,187	38	7,278	9,025
California	14,345	478	14,813	478	84,408	90,944
Total	82,841	2,762	84,747	2,734	433,230	397,632

INDICATED DOMESTIC DEMAND FOR CRUDE PETROLEUM

(Thousands of barrels of 42 U. S. gallons)

Domestic petroleum by fields of origin:	June, 1933 Total	June, 1933 Daily av.	May, 1933 Total	May, 1933 Daily av.	Jan.-June, 1933	Jan.-June, 1932
Appalachian:						
Pennsylvania Grade	1,945	65	1,831	59	10,503	10,784
Other (inc. Kentucky)	468	15	625	20	3,184	4,185
Lima-N. E. Ind.-Mich.	569	19	567	18	3,563	3,775
Ill.-S. W. Ind.	500	17	325	11	2,081	1,985
Mid-Continent:						
N. La. and Ark.	1,769	59	1,750	56	11,179	13,418
West Texas-S. E. New Mex.	5,299	176	*6,503	210	37,224	43,233
Other (Okla., Kans., N. Tex., etc.)	43,554	1,452	*41,934	1,353	224,825	213,228
Gulf Coast	6,081	203	6,231	201	35,457	24,562
Rocky Mountain	1,429	48	1,269	41	6,982	7,302
California	14,640	488	14,762	476	81,026	90,087
Total demand	76,254	2,542	75,787	2,445	416,024	411,550
Exports	4,378	146	2,678	87	15,955	14,179
Domestic demand	71,876	2,396	73,109	2,358	400,069	397,371
Foreign petroleum	3,231	108	3,227	104	18,804	23,429
Total domestic demand	75,107	2,504	76,336	2,462	418,873	420,800

*Revised.

RECEIPTS OF CRUDE ON THE ATLANTIC SEABOARD MAY AND JUNE, 1933

(Thousands of barrels of 42 U. S. gallons)

Domestic:	May	June	Foreign:	May	June
Pennsylvania Grade	537	421	Venezuela	1,300	1,316
W. Texas-S. E. N. Mex.	3,281	2,022	Colombia	485	398
East Texas	3,222	4,808	Mexico	400	256
Other Mid-Continent	1,859	2,044	Other	80	141
Gulf Coast	3,283	2,413			
			Total	2,265	2,111
Total	12,182	11,708	Total receipts	14,447	13,819

GASOLINE PRODUCTION BY THE VARIOUS METHODS, JUNE, 1933

(Thousands of barrels of 42 U. S. gallons)

	Straightrun Total	Straightrun Per cent (*)	Straightrun Per cent (†)	Cracked Total	Cracked Per cent (*)	Cracked Per cent (†)	Nat. gasoline Total	Nat. gasoline Per cent (†)	Gasoline Total	Gasoline Per cent (*)
East Coast	2,937	20.5	50.5	2,831	19.8	48.7	44	0.8	5,812	40.3
Appalachian	807	28.1	51.9	733	25.5	47.1	15	1.0	1,555	53.6
Ind., Ill., etc.	2,013	19.2	36.1	3,448	32.9	61.8	117	2.1	5,578	53.1
Okla., Kans., Mo.	2,244	26.1	48.5	1,954	22.7	42.2	430	9.3	4,628	48.8
Texas Inland	1,927	35.8	87.3	654	12.1	22.7	289	10.0	2,870	47.9
Texas Gulf	2,633	20.3	41.0	3,576	27.5	55.6	221	3.4	6,430	47.8
Louisiana Gulf	623	18.2	54.3	496	14.3	43.1	24	2.1	1,127	32.5
Ark. and La. Inland	331	24.6	52.3	270	20.1	42.6	32	5.1	633	44.7
Rocky Mountain	357	24.6	48.3	314	21.7	42.4	69	9.3	740	46.3
California	3,652	26.6	60.5	1,585	11.6	26.3	798	13.2	6,035	38.2
Total	17,534	23.5	49.5	15,855	21.2	44.7	2,039	5.8	35,428	44.7

*Per cent of crude run. †Per cent of total gasoline output.

STOCKS OF CRUDE PETROLEUM
(Thousands of barrels of 42 U. S. gallons)

EAST OF CALIFORNIA:	June 30, 1933	May 31, 1933	June 30, 1932
At refineries by location:			
East Coast: Domestic	9,464	9,136	8,817
Foreign	3,299	4,240	11,016
Appalachian	2,234	2,400	2,178
Indiana, Illinois, Kentucky, Michigan	3,768	3,881	3,981
Oklahoma, Kansas, and Missouri	4,220	4,430	5,461
Texas: Inland	2,981	2,747	1,640
Gulf Coast: Domestic	6,315	6,288	7,296
Foreign	35	72	302
Louisiana Gulf Coast: Domestic	3,904	3,672	2,590
Foreign	725	838	1,991
Arkansas and Inland Louisiana	516	524	472
Rocky Mountain	12,556	12,611	1,658
Total	50,220	50,839	47,403
At refineries by origin:			
Pennsylvania Grade	2,187	2,227	2,062
Other Appalachian (inc. Kentucky)	571	581	829
Lima-N. E. Indiana-Michigan	225	211	204
Illinois-S. W. Indiana	137	143	106
N. Louisiana and Arkansas	2,376	2,489	1,561
West Texas and S. E. New Mexico	4,541	*4,447	3,756
Oklahoma, Kansas, N. Texas, etc.	19,048	*18,031	19,302
Gulf Coast	4,535	4,975	4,681
Rocky Mountain	12,538	12,589	1,593
Foreign	4,062	5,150	13,309
Total	50,220	50,839	47,403
Pipe line and tank farm:			
Pennsylvania Grade	4,267	4,411	4,957
Other Appalachian (inc. Kentucky)	780	789	817
Lima-N. E. Indiana-Michigan	718	738	1,328
Illinois-S. W. Indiana	11,240	11,306	10,859
N. Louisiana and Arkansas	10,968	10,844	14,703
West Texas and S. E. New Mexico	29,579	29,183	36,909
Oklahoma, Kansas, N. Texas, etc.	169,129	163,426	167,023
Gulf Coast	10,843	10,027	13,807
Rocky Mountain	15,516	15,603	25,189
Total	253,040	246,327	269,592
Total refinery, pipe line and tank farm	303,260	297,166	316,995
Producers'	7,400	7,700	5,850
Total crude east of California	310,660	304,866	322,845
CALIFORNIA: Light	37,537	38,722	40,938
Total refinable crude in the United States	348,197	343,588	363,783

*Revised.

RUNS TO STILLS AND OUTPUT OF REFINERIES, JUNE, 1933
(Thousands of barrels of 42 U. S. gallons)

INPUT—	Crude oil: Domestic	Crude oil: Foreign	Crude oil: Total	Unfinished oils rerun	Natural gasoline	Total input
East Coast	11,361	2,953	14,314	658	44	15,016
Appalachian	2,875	.....	2,875	496	15	3,386
Ind., Ill., Ky., etc.	10,484	.....	10,484	239	117	10,840
Okla., Kans., Mo.	8,597	.....	8,597	199	439	9,217
Texas Inland	5,409	.....	5,409	91	289	5,789
Texas Gulf	12,958	36	12,994	1,024	221	14,239
Louisiana Gulf	3,315	109	3,424	149	24	3,597
Arkansas & Louisiana Inland	1,345	.....	1,345	318	32	1,695
Rocky Mountain	1,450	.....	1,450	17	69	1,536
California	13,727	.....	13,727	574	*798	15,099
Total	71,521	3,098	74,619	3,756	2,039	80,414

OUTPUT—	Gasoline	Kerosene	Gas oil and distillate fuels	Residual fuel oils	Lubricants	Wax (thou. of pounds)
East Coast	5,812	816	1,018	3,986	470	17,920
Appalachian	1,555	251	244	400	372	6,160
Ind., Ill., Ky., etc.	5,578	440	818	1,379	150	2,240
Okla., Kans., Mo.	4,628	647	590	1,796	234	2,240
Texas Inland	2,880	260	262	1,692	17	280
Texas Gulf	6,430	858	1,301	3,377	422	3,640
Louisiana Gulf	1,137	222	401	1,313	39	5,040
Ark. and La. Inland	633	57	81	447	5	.....
Rocky Mountain	740	64	56	266	19	1,120
California	6,035	411	1,514	5,900	118	.....
Total	†36,428	4,126	6,271	20,556	1,846	38,640

OUTPUT—	Coke (tons)	Asphalt (tons)	Road oil	Still gas	Miscellaneous	Unfinished products	Shortage
East Coast	22,200	105,900	197	825	27	876	110
Appalachian	2,200	11,800	51	222	35	22	136
Ind., Ill., Ky., etc.	53,000	47,700	365	916	18	582	67
Okla., Kans., Mo.	27,600	4,700	92	437	12	303	366
Texas Inland	5,200	.....	21	-119	3	88	320
Texas Gulf	30,400	17,600	53	960	3	266	307
Louisiana Gulf	3,600	13,800	4	99	...	106	170
Ark. and La. Inland	200	8,600	21	46	1	306	59
Rocky Mountain	8,200	500	105	81	3	123	37
California	800	33,800	168	436	20	265	42
Total	154,400	247,400	1,077	4,141	122	3,031	1,545

*Includes 87,000 bbls. run through pipe lines. †Includes 576,000 bbls. special naphthas.

CRACKING OPERATIONS

Fresh cracking stock charged to stills 36,316,000 bbls.; gasoline produced by cracking 15,855,000 bbls.; fuel oil produced by cracking 12,039,000 bbls.

RECORD OF WELLS FOR IMPORTANT FLUSH FIELDS, JUNE, 1933*

	Completions: Oil	Gas	Dry	Total initial prod. (bbls.)	Aver. initial prod. (bbls.)	Drilling June 30
Texas	204	6	123	(†)	(†)	626
East Texas	35	...	7	(†)	(†)	57
Gulf Coast	60	1	22	36,700	1,400	129
Conroe	39	...	1	66,900	1,700	37
Other	21	1	21	19,500	900	92
West Texas	11	...	5	3,200	300	94
California	11	...	11	5,400	500	114
Kettleman Hills	...	...	...	.....	.....	12
Long Beach	3	...	1	300	100	25
Playa del Rey	1	...	1	100	100	1
Oklahoma	54	6	28	14,000	300	285
Oklahoma County	1	...	...	3,000	3,000	18
Pottawatomie and Seminole Counties	8	...	1	3,400	500	40
New Mexico	1	...	...	100	100	51
Lea County (Hobbs)	1	...	...	100	100	5
Other States	102	51	112	35,000	300	796
Total United States	372	63	274	(†)	(†)	1,866

*From The Oil and Gas Journal and California office of American Petroleum Institute. †Not available.

SHIPMENTS OF MOTOR FUEL BY PIPE LINES
(Thousands of barrels of 42 U. S. gallons)

	June, 1933	May, 1933	June, 1932	Jan.-June, 1933	Jan.-June, 1932
Motor fuel turned into lines	3,269	3,384	2,713	17,242	14,093
Motor fuel delivered from lines	3,222	3,374	2,879	17,227	13,941
Shortage	14	6	9	25	28
Stocks in lines and working tanks end of month	1,188	1,215	1,086	1,188	1,086

STOCKS HELD BY REFINING COMPANIES, JUNE 30, 1933
(Thousands of barrels of 42 U. S. gallons)

	Gasoline: At refineries	Gasoline: Bulk and pipe lines*	Gasoline: Total	Kerosene	Gas oil and distillate fuels	Residual fuel oils
East Coast	5,094	9,608	14,702	1,782	3,497	3,764
Appalachian	1,333	855	2,188	221	480	269
Ind., Ill., Ky., etc.	4,362	2,586	6,948	367	1,839	1,963
Okla., Kans., Mo.	3,303	1,551	4,854	461	922	2,428
Texas Inland	1,885	220	2,105	169	456	2,932
Texas Gulf	5,213	183	5,396	1,615	2,662	3,764
Louisiana Gulf	1,204	453	1,657	317	1,369	1,373
Ark. and La. Inland	194	187	381	13	140	464
Rocky Mountain	1,340	....	1,340	185	144	437
California	6,654	4,593	11,247	1,274	3,471	95,367
Total	30,582	20,236	50,818	6,404	14,980	112,741

	Wax (thousands of pounds): Lubricants	Crude scale	Refined	Total	Coke (tons)
East Coast	2,376	17,520	12,863	30,393	41,800
Appalachian	936	15,301	2,395	17,696	6,500
Ind., Ill., Ky., etc.	903	12,839	1,281	14,120	107,500
Okla., Kans., Mo.	480	1,342	1,330	2,672	143,600
Texas Inland	83	55	....	55	115,900
Texas Gulf	1,827	1,489	11,764	13,253	488,000
Louisiana Gulf	79	3,822	3,331	7,153	76,400
Ark. and La. Inland	8	.....	....	.....	200
Rocky Mountain	191	26,400	872	27,272	101,600
California	838	.....	....	.....	103,900
Total	7,734	78,778	33,836	112,614	1,185,400

	Asphalt (tons)	Road oil	Miscellaneous products	Unfinished oils	Natural gasoline
East Coast	95,400	164	65	7,760	32
Appalachian	19,500	46	27	1,746	1
Ind., Ill., Ky., etc.	63,200	210	51	7,337	30
Okla., Kans., Mo.	3,500	260	20	4,284	16
Texas Inland	....	24	5	997	5
Texas Gulf	4,200	47	9	11,113	127
Louisiana Gulf	20,900	7	....	1,871	....
Ark. and La. Inland	27,900	16	4	397	10
Rocky Mountain	3,100	209	9	2,189	2
California	49,900	315	212	*7,645	2,662
Total	287,600	1,298	402	45,338	2,885

*Includes 4,001,000 bbls. tops.

Staiti's First Drilling Rig Was a Two-Horse Marvel

(Continued from Page 16)

operations, which have continued since then. He has had failures as well as successes, but the successes seem to have outnumbered the failures, for he is rated today as well-to-do and as one of the leading independent operators of the Gulf Coast. He organized the firm which drilled the first producing oil well in the Humble Field and conducted many development operations in various Texas fields.

Mr. Staiti is president of the Houston-Oklahoma Oil Co., American Sulphur Royalty Co. and the Valley Oil Corp. He is vice president of the Universal Sulphur Products Co. and of the Pathfinder Oil Corp. and he is vice president and general manager of the Texas Exploration Co. The last-named company completed the first well at Damon Mound, later selling the property to the Sinclair organization, but retaining a participating interest. It has a working interest in properties in Damon and Pierce Junction and owns sulphur-bearing properties at Damon. It also has interests at Hockley and Big Hill, Jefferson County, Texas. The Houston-Oklahoma Oil Co. has holdings in the Healdton, Okla., Field and in Kansas.

With associates Mr. Staiti developed the sulphur mines at Freeport, Tex. The American Sulphur Royalty Co., of which he is president and general manager, has the royalty interests in property operated by the Freeport Texas Co.

Flowers His Hobby

Mr. Staiti was born in 1876 in Marshall, Tex., attended school there and graduated from old Marshall College. In 1901 he married Miss Odelia Reisner, of Waco. They resided in Beaumont till 1904, when they moved to Houston, Tex., where they have lived since then. Both are intensely fond of flowers and their beautiful home in Westmoreland Avenue is alive with color throughout most of the year.

Golf and fishing were Mr. Staiti's favorite forms of recreation in former years, but he virtually has dropped these sports and now devotes almost all of such leisure as he has to his flowers and his wife. "She has been my sweetheart for 32 years," he smiled.

Mr. Staiti retains his membership in the Houston Club and the Houston Country Club. He has been active in the American Petroleum Institute and the Mid-Continent Oil and Gas Association.

From the time his interest became centered on exploratory work he has been a student of geology and in recognition of his mineral research work he was awarded a fellowship in the Royal Society of Arts of London.

Mr. Staiti's father, Santo Staiti, was a native of Palermo, Italy, completed his education in a university in Rome and in 1848, as a result of political strifes, came to the United States and became a naturalized citizen. He engaged in business in New Orleans, La., fought with the South in the Ninth Louisiana Artillery throughout the Civil War and following the war engaged in the mercantile business, first in Shreveport, La., later in Marshall, Tex., where Henry T. Staiti as a boy worked in the store, and then in Texarkana, Tex. Mr. Staiti's mother was Mary Jane Deal, a native of Goodlettsville, Tenn., who in girlhood, with her parents, Mr. and Mrs. Charles Cole Deal, went to Shreveport shortly before the Civil War.

TO DROP WYOMING PROBE

CHEYENNE, Wyo., Aug. 19.—Wyoming state officials have decided to drop the investigation of gasoline prices which was started in this State in June. According to officials it is expected that the matter of retail prices will be adjusted equitably under the National Recovery Act. Hearings were held during June and July in the attempt of the state officials to prove that retail prices for gasoline in Wyoming were out of line with the cost of production.

JUDGE FULLILOVE DEAD

SHREVEPORT, La., Aug. 21.—S. C. Fullilove, pioneer operator in the original Red River Parish, Louisiana, field—Lenzburg-Crichton—in 1913, died at his home here August 16 of complications following typhoid. Since Lenzburg-Crichton day he had been active in various pools in this territory while carrying on his law practice. At the time of his death he also was judge of the Caddo Parish juvenile court. He served at one time as judge of the Shreveport city court.

HEARING POSTPONED

AUSTIN, Texas, Aug. 22.—Due to absence of Commissioner Ernest O. Thompson who has been in Washington on the oil code, the Texas railroad commission postponed until August 30 its scheduled hearing on pipe line rates and regulations governing storage of oil.

Good Producer Completed in Runnels County Stimulates Activity; Good Well Also in Irion

By L. E. BREDBERG
Fort Worth Bureau, The Oil and Gas Journal

FORT WORTH, Tex., Aug. 21.—The completion of B. C. Mann and others' No. 1 T. B. Wade, in the Norvell Travis Survey, Runnels County, for a 520-bbl. well at a total depth of 2,534 feet after drilling 4 feet of sand, has "started the ball to rolling" again in this area. Three more tests are planned for this area immediately, and others are expected to be drilled farther to the north, northwest and northeast. The new well is the best yet completed in the area and marks a quarter of a mile north extension.

There have been seven tests drilled in the area, five of which made producers. Two of these later fell off production and were abandoned. The first well drilled in the area, which is called the McMillan Pool, was completed on August 16, 1927. It was deepened to 2,535 feet in December, 1930, increasing production. The Vacuum Oil Co. purchased a half interest in the original well and block. Later the Magnolia Petroleum Co. acquired the interest in the block. A small pipe line was laid from the area to a loading rack at Benoit on the Santa Fe from which point the oil was first shipped out by the Vacuum Oil Co. when it held the interest in the well. The Condor Petroleum Co. later purchased the leases and the line from Magnolia.

A small refinery has been erected north of the pool and has been operating on oil from one of the wells in the pool, owned by the Bluebonnet Petroleum Co. which completed an extension producer last year. The refinery has been operating three months.

Good Shallow Producer

P. A. Johnson's No. 1 Tankersley, in the H. J. Voelker Survey, just north of Mertzon, in Irion County, was another surprise well for West Texas. This new shallow pool discovery was completed for an initial production of 160 bbls. from pay topped at 1,368 feet. Total depth is 1,371 feet. This is the best well yet completed in the shallow areas of Irion County and will no doubt lead to considerable more drilling in the immediate vicinity as well as in other parts of the county where operators may hope to pick up the shallow high gravity oil producing sand.

A small refinery at Mertzon operates on some of the shallow oil while the remainder of the oil is shipped to San Angelo refineries. Gravity of the oil runs from 37 to 38 degrees.

The four separate strip tracts recently acquired by Fred Turner from the Mid-Kansas Oil & Gas Co. in the Yates Pool, Pecos County, are located as follows: "A" lease, containing 142.5 acres, on the east side of Section 33, Block 194, G.C.&S.F. Survey; "B" lease, containing 56.3 acres in Sections 32 and 33; "C" lease, containing 64.4 acres in Sections 31 and 32; "D" lease, in Sections 30 and 31, containing 69.7 acres. Thirteen locations were reported for these four tracts in this column last week, the wells to be drilled immediately.

Top of anhydrite was reported to have been logged at 1,580 feet in Broderick & Calvert and others' No. 1 Cowden, Section 25, Block 44, Township 2s, T.&P. Survey, and top of the salt at 1,620 feet. The latter figure compares with 1,420 feet in a former test drilled by them to the northeast.

Moran Drilling Co.'s No. 1 Smith, in Section 12, Block 43, Township 1s, T.& P. Survey, is preparing to run a string of casing. Total depth is 4,345 feet. Nine hundred and fifty feet of oil is standing in the hole. It now appears as certain of making a small producer and extending the Cowden area over 2 miles to the southeast in the direction of the Addis area.

Stanolind Oil & Gas Co.'s No. 3 Cowden, in Section 43, Township 1n, is drilling at 3,880 feet and is the next test due to be completed in the Cowden area to the north of the above mentioned Moran test. Elevation is 3,068 feet.

Southern Oil Corp.'s No. 1 Boren, in Section 136, Block 5, H.&G.N. Survey, Garza County, was abandoned this week at a total depth of 2,522 feet. This test showed 4 bbls. of oil per day after treating with 1,000 gallons of acid with a 100-bbl. oil load. There was not sufficient oil to warrant producing the well.

Deep Test Abandoned

The Eastland Oil Co. and others abandoned their deep test in Schleicher County this week. Total depth is 6,108 feet. Elevation is 2,295 feet. A bad fishing job precluded the drilling deeper of this test in quest of production in the Ordovician lime. The test was located in Section 29, Block M, G.H.&S.A. Survey.

Merry Brothers and Perini will shoot their Reeves County wildcat which had a showing of free oil and a puff of gas at 4,420 feet. The showings were exhausted, however, at this test but another showing was logged at 4,637-40 feet. Water increased at 4,680-88 feet. Former showings of oil were logged at 4,334-43, 4,359-61, 4,413 and 4,419 feet. Hole was bridged back to 4,400 feet where it may be given a shot.

Other showings of oil have been encountered in wildcat tests in this county, but so far none has proved productive. A shot will prove the success or failure of this test.

More wells have been treated with acid in the Fisher and Jones County pools, the majority of treatments proving successful.

WICHITA FALLS DISTRICT

Walter Gant of Ardmore, Okla., has taken two blocks on the Worsham ranch in Clay County and is to drill two 4,000-foot tests. One of these tests will be located near an area which formerly produced from a sand around 3,800 feet. The area, however, has been abandoned but the two tests will be interesting due to their proposed depths and possibility of picking up this old formation from which they may produce.

Danciger Oil & Refining Co. and others have made location for a 3,500-foot cable tool test on a 15,000-acre block near Chico in Wise County. The Sinclair Prairie Oil Co. has an interest in this block.

There were 38 locations in the Ranger and Wichita Falls district for the week, the majority of which were in the shallow producing areas. Refineries in and around Wichita Falls handled 5,000 bbls. of 62-cent oil and 10,000 bbls. of 52-cent oil per day during the past week, giving an outlet to considerable production in the area.

Production in the Wichita Falls district averaged 50,835 bbls. per day during the week. This is 5,165 bbls. below the daily allowable set by the Railroad Commission.

PANHANDLE DISTRICT

Production in the Panhandle averaged 49,303 bbls. per day during the week about 500 bbls. per day increase over the past week, but still below the daily allowable of 60,000 bbls. A new location was reported 7 miles south of the town of White Deer in Carson County. Reiger and others made the location on the Foster ranch, in Section 93, Block 7, I.&G.N. Survey.

The Warner Oil Co. completed a mile extension well for 680 bbls. with about 2,000,000 feet of gas from granite wash logged from 2,355-78, 2,400-15 and 2,436-39 feet in its No. 1 L. H. Webb in Section 42, Block 25, H.&G.N. in eastern Gray County. The nearest production is approximately 1 mile to the west. A dry gasser was completed several years ago about one-half mile to the south of the new extensioner.

Completion of this extension well will lead to offset drilling and probably also to other drilling on nearby acreage to prove up the extent of this new area or bring in production on intervening acreage.

Culberson County

A large surface structure in Culberson County is to receive a test, it became known this week with the announcement by the Anderson-Prichard Oil Corp., which has acquired leases covering the entire structure, that it will begin drilling operations October 6.

The structure, which runs in a northwesterly and southeasterly direction in the northwestern part of Culberson County, is roughly about 30 miles long and 15 miles wide. It has approximate-2,000 feet of closure. It was discovered by Dr. Emil Ott, consulting geologist of San Angelo, Tex., and was plane-tabled by him and Knute Evjen, who began their work on it two years ago.

The Anderson-Prichard Oil Corp., whose leases comprise a solid block of more than 80,000 acres, says it will drill its test well on about the center of this block. It plans to go to a depth of 5,000 feet unless production is encountered before it reaches that level. The formation looked for is understood to be the same one that opened the Oklahoma City and Seminole Fields in Oklahoma and the Big Lake Field in Reagan County, Texas, and commonly referred to as the Simpson, though identification of this horizon is a subject of divergent views.

Wildcat Operations in West Texas

Week Ending August 21

Company, well, farm name, section and block—	Remarks:
BREWSTER COUNTY	
C. P. Link & Joiner et al's No. 1 McIntyre, 853 ft. from S and 2,390 ft. from E line of Sec. 31, W. J. Mitchell Sur.	S.D. 860 ft.
CONCHO COUNTY	
Beasley et al's No. 1 Waring Estate, 400 ft. from N and E. Sec. 163, T.&N.O. Sur.	S.D. 2,685 ft.
CRANE COUNTY	
Loffland Bros.' No. 1 Tubbs, 1,334 ft. from N line, 1,320 ft. from W line, Sec. 9, Blk. 27-B, P.S.L. Sur.	S.D. 1,530 ft.
ECTOR COUNTY	
Broderick & Calvert et al's No. 1 E. F. Cowden, 2,240 ft. from E line, 330 ft. from S line of Sec. 25, Blk. 44, Twp. 2s, T.&P. Sur.	Drlg. 1,235 ft.
Gilpen et al's No. 1 B. H. Blakeney, 330 ft. from S and 440 ft. from E line of Sec. 32, Blk. 43, Twp. 1n. T.&P.R.R. Sur.	Building rig.
Landreth Production Co. & Llano Oil Co.'s No. 1 O. B. Holt, 660 ft. from S and W lines of N half of Sec. 20, P.S.L. Sur.	Drlg. 1,460 ft.
Moran's No. 1 R. W. Smith, NW cor. of Sec. 12, Blk. 43, Twp. 1n, T.&P.R.R. Sur.	S.D. to test 4,330 ft., top lime 3,945 ft.
Stanolind Oil & Gas Co.'s No. 2 E. F. Cowden, 660 ft. from N and W lines of Sec. 26, Blk. 43, Twp. 2s, T.&P.R.R. Sur.	Drlg. 2,250 ft.
Stanolind O. & G. Co.'s No. 3 J. M. Cowden, 1,980 ft. from N and E lines, Sec. 34, Blk. 43, Twp. 1n, T.&P.R.R. Sur.	Drlg. 3,702 ft.
Fred Turner's No. 1-B F. V. Addis, 440 ft. from the E line and 330 ft. from S line of Sec. 35, T.&P.R.R. Sur., Blk. 43, Twp. 2s	Cellar.
FISHER COUNTY	
Condor Pet. Co.'s No. 1 Holley, 1,170 ft. W and 660 ft. from N lines of E half, Sec. 6, Blk. R, W. E. Richardson Sur.	Moving in.
Southern Oil Co.'s No. 1-A Pardue, 2,310 ft. from S and 990 ft. from E lines of Sec. 202, B.B.&C. Sur.	Drlg. 1,425 ft.
HOWARD COUNTY	
Donnelly & Norman's No. 1 Magnolia Petroleum Co. (Bell), 330 ft. from N line and 330 ft. from W line of the N half of SW of Sec. 12, T.&P.R.R. Sur., Blk. 30, Twp. 1s	S.D. 400 ft.
L. C. Harrison et al's No. 2 Texas Land & Mortgage Co., 2,310 ft. from E line and 330 ft. from the S line of Sec. 4, T.&P.R.R. Sur., Blk. 30, Twp. 1s	Location.
Joe Rusk et al's No. 2 G. M. Dodge Estate, 330 ft. from N line and 2,310 ft. from the E line of Sec. 9, H.&T.C.R.R. Sur., Blk. 30, Twp. 2s	Location.

(Continued on Page 42)

COMPLETIONS IN WEST TEXAS

Garza County

Southern Oil Corp.'s No. 1 Boren, dry and abandoned, total depth 2,522 feet.

Howard County

Continental Oil Co.'s No. 11-A Settles, top pay 2,335 feet, initial production 65 bbls. pumping, total depth 2,377 feet.

Irion County

P. A. Johnson's No. 1 Tankersley, top pay 1,368 feet, initial production 160 bbls., total depth 1,371 feet.

Pecos County

Kemper Kimberlin's No. 1 D. B. Gregg, top pay 1,240 feet, initial production 50 bbls., flowing per day, total depth 1,448 feet.

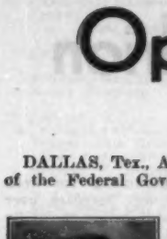
Runnels County

B. C. Mann and others' No. 1 T. B. Wade, top pay 2,530-34 feet, initial production 520 bbls. flowing by heads per day through tubing, total depth 2,534 feet.

Drilling Activity Increasing in East Texas With Operators Inclined to Abide by Proration

By L. E. BREDBERG

DALLAS, Tex., Aug. 21.—The victory of the Federal Government in the suit brought by a group of 49 East Texas producers and refiners who sought an injunction to prevent Secretary Ickes from enforcing hot oil regulations placed in effect on July 11 as ordered by President Roosevelt has strengthened the proration situation in East Texas. Many operators who might have heretofore been hostile to proration are willing to follow out any orders now or previously issued by the President to help the industry and the country under the National Recovery Act, but as clearly shown, there were a few operators in the field who were not even willing to abide by the President's orders until forced to do so. Sentiment, however, has changed in the field, and from now on curtailment of production and proration will be followed closely.



Locations gained again this week; 81 first reports were announced for the field while 52 new wells were added to the list of producers. This brings the total producing wells to around 10,450 at the present time. Companies and independents alike are adding more wells to their leases to obtain more production which they believe will soon bring a much better price. They will overlook well density in order to obtain a greater potential, and thereby more production.

After the drilling contractors have completed drafting their code, and after it is accepted and put into effect by the Federal Government, the cost of drilling wells will be increased to the point where it may prove unprofitable to drill more wells on many of the leases in East Texas. This code may have considerable effect on future drilling in that field, something which is to be considered at this time. However, some of the operators may have already given this consideration, expecting drilling costs to be raised considerably in the near future, consequently are drilling more wells at this time while drilling costs are down to rock bottom.

Oil Well in Gas Area

Marr Drilling Co.'s No. 1 Lee in the J. H. Sparks Survey, on the extreme southern end of the field, Rusk County, was deepened to 3,629 feet and made two heads of 10 bbls. in 10 minutes and quit flowing. It is now shut down for storage. It topped the sand at 3,608 feet and appears as an oil producer in the gas area, extending production, or opening up an oil producing area as contended in an application recently submitted to the Railroad Commission when the Womack Oil Co. and others asked that this area be set aside as a separate field and not be prorated until production reached 10,000 bbls. per day in the area. It marks a considerable extension to the field, if not opening up a separate pool as contended in the petition.

Wildcatting Activities

The Leon County test of Bateman Drilling Co. and others on the Carlisle farm in the Mary Elam Survey has struck some tough going and made only 11 inches during the past 11 hours' drilling. It is down around 5,950 feet.

Shell Petroleum Corp. and others' No. 1 Beggs, in the Carter Survey, Leon County, lost several joints of drill pipe in the hole during the week and is now fishing 12 joints still in the hole. Total depth is 5,593 feet. The test is said to be running about 200 feet higher than the company's No. 1 Phillips test which was abandoned approximately 3 miles to the east of this test, but which had several good showings of oil and gas.

Tide Water Oil Co. and Texas Seaboard Oil Co.'s Long Lake plantation test in southwest Anderson County, logged the Wilcox at 2,310 feet and topped the Midway at 2,330 feet. It is drilling ahead below 2,650 feet said to be running about normal if not low. This test is located on a block of approximately 25,000 acres.

Syam Oil Co.'s No. 1 Keipp, in the J. Richardson Survey, Navarro County, tested some oil in a stray sand at 2,540-52 feet during the week and is now drilling ahead below 2,730 feet in basal Taylor. It topped the Pecan Gap chalk at 2,155 feet.

Another Henderson County test was abandoned this week. W. C. McGlothlin and others' No. 1 T. H. English, in the J. Henderquez Survey, was given up as dry at a total depth of 4,523 feet. Elevation is 441 feet. It had the Pecan Gap chalk from 2,512-2,740 feet and drilled Austin chalk from 3,501-3,952 feet. The Woodbine sand was topped at 4,430 feet.

Mudge Oil Co.'s No. 1 T. R. Cargill, in the John Hastings Survey, Hopkins County, was abandoned this week at 3,717 feet. Elevation is 491 feet. It topped the Austin chalk at 2,050 feet and the Woodbine sand at 3,030 feet. Oil sand was logged from 3,342-3,416 feet and red beds at 3,563 feet.

Van Pool—Van Zandt County

The Pure Oil Co. is now constructing a 2,000,000-bbl. salt water disposal reservoir north of the Van Pool to handle any water it may now produce and to take care of future needs for such disposal. The pool is not making any large quantity of water at the present time.

Three central powers are also being installed in the field to handle a few present pumpers and others that mght necessitate pumping in the near future. These powers will operate a maximum of 60 wells when completed.

Hearing on Pumping Wells

The railroad commission is to hear the petition of the Jenkins Oil Corp. at Austin for an increased allowable for all of its pumping wells in the field.

The hearing will be of the utmost importance due to the fact that there are in the neighborhood of 400 pumpers in the field, the owners of which will be closely watching the outcome of this hearing. If the company is granted an increase owners of all other pumpers in the field can be expected to ask for a like increase for their wells.

The commission may not take any action on the hearing until each pool is granted its pro rata share in the state, and marginal wells are given their daily allowables under the new oil code. The code should be able to handle the situation and may probably sidetrack any action of the commission on the petition of the complaining company.

East Central Texas Wildcats

Week Ending August 21

ANDERSON COUNTY

Company, well, farm name, section and block—	Remarks:
Tide Water Oil Co. and Seaboard Oil Co.'s No. 1 Long Lake Plantation, 3,700 ft. due S of S cor. of Tom Reeves estate, 97-ac. tract, Simon Sanches Sur.	Drlg. 560 ft.
BOWIE COUNTY	
R. W. Lynn and W. R. Roife's No. 1 Mrs. R. D. Hart, 330 ft. out of NE cor. of Hart 20-ac. tract, 1 mile E of Nash, Thomas Price Sur.	Location.
Lee Timberlake et al's No. 2 Tidwell (old well to be drilled deeper), 2,310 ft. N and 665 ft. W of SE cor. of survey, L. M. Rice Sur.	Cleaning out 3,010 ft.
FRANKLIN COUNTY	
Van Emon et al's No. 1 O. S. Maxton, 910 varas W and 910 varas S of NE cor. of survey, John Brown Sur.	Derrick.
GREGG COUNTY	
Arcadia Refining Co.'s No. 1 R. M. Wood, 100 ft. W of Republic's No. 1 Wood in Blk. No. 134, H. R. Hokit Sur.	Rig up.
Atlantic Oil Producing Co.'s No. 20-B Burnside, 330 ft. from N line and 259½ ft. from E line of lease and survey, F. W. Johnson Sur.	Waiting on cmt. to set; T.D. 3,540 ft.
Atlantic Oil Producing Co.'s No. 36 Hayes, 2,330 ft. from N line and 330 ft. from W line of survey, W. C. Alvice Sur.	Rig up.
Atlantic Oil Producing Co.'s No. 49 Judge, 2,200 ft. from E line and 1,655 ft. S of NE cor. of lease, F. W. Johnson Sur.	Rig up.
Atlantic Oil Producing Co.'s No. 11 Andrews, 330 ft. from N and E lines of lease, William Hyde Sur.	Location.
Atlantic Oil Producing Co.'s No. 8 W. Smith, 150 ft. from N line and 2,200 ft. from W line of survey, J. C. Carrithers Sur.	Drlg. 2,985 ft.
Atlantic Oil Producing Co.'s No. 9 R. E. Whaley, 2,910 ft. from N line and 3,510 ft. from E line of survey, W. P. Chisum Sur.	Rig up.
Badgett et al's No. 1 A. A. King, 2,200 ft. from S line and 395 ft. from W line of survey, M. Tennyson Sur.	Coring 3,668 ft.
Bay Oil Co.'s No. 5 Wheeler, 3,420 ft. from S line and 1,509 ft. from W line of survey, D. Ferguson Sur.	Waiting on cmt. to set 3,530 ft.
Blake and Bradley's No. 1 Foshee Estate, 1,880 ft. W and 90 ft. S of NE cor. of Selby Blk. "C," J. R. Crosby Sur.	T.D. 3,526 ft.
Roy L. Carter's No. 1 A. A. King, 2,100 ft. from S line and 750 ft. from W line of survey, Jos. Hoy Sur.	Rig up.
Continental Oil Co.'s No. 5 B. C. Todd, 841 ft. from E line and center of N and S lines of lease, W. H. Castleberry Sur.	Waiting on cmt. to set 3,530 ft.
East Texas Refining Co.'s No. 3 D. G. Sparks, 330 ft. from W line of lease and 660 ft. SE of No. 1, H. Kirk Sur.	Set csg.; T.D. 3,676 ft.
East Texas Refining Co.'s No. 6 Castleberry, 349 ft. from N and S lines of lease and 306 ft. from Nos. 1 and 2, G. W. Hooper Sur.	Drlg. 3,000 ft.
East Texas Refining Co.'s No. 7 Tuttle, 4,950 ft. from N line and 6,180 ft. from W line of survey, W. R. Castleberry Sur.	Waiting on cmt. to set 3,600 ft.
East Texas Refining Co.'s No. 9 Hindman and Guy, 5,570 ft. from S line and 3,870 ft. from W line of survey, G. W. Hooper Sur.	Rig up.
East Texas Refining Co.'s No. 9 F. White, 330 ft. from S line of lease and 425 ft. from No. 4 in H. Edwards Sur.	Waiting on cmt. to set 3,610 ft.

(Continued on Page 42)

COMPLETIONS IN EAST TEXAS

North Gregg County

Atlantic Oil and Producing Co.'s No. 10 T. W. Lee, top sand 3,596 feet, initial production 100 bbls. per hour through open tubing, total depth 3,652 feet.

Atlantic Oil and Producing Co.'s No. 45 Moore, top sand 3,494 feet, initial production 120 bbls. per hour through open tubing, total depth 3,540 feet.

Bishop Corporation's No. 4 A. J. Ritchie, top sand 3,565 feet, initial production 54 bbls. in one-half hour through open tubing, total depth 3,619 feet.

Canadian Oil Co.'s No. 3 Whittaker, top sand 3,495 feet, initial production 80 bbls. per hour through open tubing, total depth 3,562 feet.

East Texas Oil and Refining Co.'s No. 8 Hindman-Guy, top sand 3,613 feet, initial production 67 bbls. in one-half hour through open tubing, total depth 3,650 feet.

Fritz Oil Co.'s No. 3 Anderson, top sand 3,585 feet, initial production 100 bbls. per hour through open tubing, total depth 3,590 feet.

Gulf Production Co.'s No. 42 Judge, top sand 3,500 feet, initial production 80 bbls. per hour through open tubing, total depth 3,530 feet.

Heyser-Heard's No. 2 Hindman-Guy, top sand 3,623 feet, initial production 100 bbls. per hour through open tubing, total depth 3,653 feet.

Kewanee Oil Co.'s No. 14 Fee, top sand 3,579 feet, initial production 63 bbls. per hour through open tubing, total depth 3,624 feet.

Lecher and Hubbard's No. 3-A A. Harley, top sand 3,580 feet, initial production 102 bbls. per hour through open tubing, total depth 3,603 feet.

Magnolia Petroleum Co.'s No. 3 W. E. Jones, top sand 3,675 feet, initial production 65 bbls. per hour through open tubing, total depth 3,686 feet.

Magnolia Petroleum Co.'s No. 11 W. E. Jones, top sand 3,669 feet, initial production 100 bbls. per hour through open tubing, total depth 3,697 feet.

Miller and Lacy's No. 2 Nicholson, dry and abandoned, total depth 3,692 feet, made drill stem test from 3,652-92 feet, showed two joints of mud, no show of oil, top of sand 3,652 feet. (M. Mann Survey.)

Reserve Petroleum Co.'s No. 2 J. J. Tuttle, top sand 3,500 feet, initial production 120 bbls. per hour through open tubing, total depth 3,560 feet.

Bennie Rousch's No. 1 Rodden, top sand 3,675 feet, initial production 65 bbls. per hour through open tubing, total depth 3,600 feet.

Selby Oil and Gas Co.'s No. 20-8 Snavely Heirs, top sand 3,586 feet, initial production 58 bbls. in one-half hour

through 1-inch tubing choke, total depth 3,586 feet.

South Gregg County

Adams and Lyle's No. 6 Howard, top sand 3,570 feet, initial production 80 bbls. per hour through open tubing, total depth 3,585 feet.

Atlantic Oil and Producing Co.'s No. 8 R. E. Whaley, top sand 3,629 feet, initial production 125 bbls. per hour through open tubing, total depth 3,639 feet.

Cal-Tex Oil Co.'s No. 5 L. D. Crim, top sand 3,596 feet, initial production 45 bbls. in half hour through open tubing, total depth 3,603 feet.

Houston Oil Co.'s No. 6 M. B. Hughey, top sand 3,473 feet, initial production 150 bbls. per hour through open tubing, total depth 3,523 feet.

Jones and O'Brien's No. 15 Hughey-Ross, top sand 3,499 feet, initial production 60 bbls. per hour through open tubing, total depth 3,540 feet.

Rabbit Creek Oil Co.'s No. 2 Elder, top sand 3,538 feet, initial production 75 bbls. per hour through open tubing, total depth 3,675 feet.

Rhoads Drilling Co.'s No. 7 Sabine River, top sand 3,463 feet, initial production 50 bbls. in half hour through open tubing, total depth 3,463 feet.

Sinclair Prairie Oil Co.'s No. 33 M. T. Cole, top sand 3,605 feet, initial production 60 bbls. per hour through open tubing, total depth 3,610 feet.

Sinclair Prairie Oil Co.'s No. 3-B A. A. King, top sand 3,409 feet, initial production 31 bbls. in one-quarter hour through open tubing, total depth 3,610 feet.

J. B. Sowell's No. 4 W. P. Luce, top sand 3,553 feet, initial production 75 bbls. per hour through open tubing, total depth 3,567 feet.

Tide Water Oil Co.'s No. 20 M. B. Hughey, top sand 3,505 feet, initial production 10 bbls. in 10 minutes through open tubing, total depth 3,520 feet.

Vise and others' No. 2-B Cumi Wells, top sand 3,688 feet, initial production 35 bbls. in one-half hour through open tubing, total depth 3,690 feet.

North Rusk County

Humble Oil & Refining Co.'s No. 18 J. N. Peterson, top sand 3,631 feet, initial production 96 bbls. per hour through three-quarters inch tubing choke, total depth 3,661 feet.

C. L. McMahon's No. 6 S. S. Laird, top sand 3,654' feet, initial production 115 bbls. per hour through open tubing, total depth 3,658 feet.

Magnolia Petroleum Co.'s No. 10 C. C. Still, top sand 3,650 feet, initial production 120 bbls. per hour through open tubing, total depth 3,650 feet.

Manahan Oil Co.'s No. 3 Nat and Carlos Bean, top sand 3,655 feet, initial production 75 bbls. per hour through three-quarters inch tubing choke, total depth 3,655 feet.

Snowden and McSweeney's No. 11 R. H. Laird, top sand 3,573 feet, initial production 65 bbls. per hour through open tubing, total depth 3,588 feet.

Tide Water Oil Co.'s No. 6 Leverett, top sand 3,660 feet, initial production 25 bbls. in one-quarter hour through open tubing, total depth 3,676 feet.

Upchurch and Allen's No. 3 W. J. Brightwell, top sand 3,608 feet, initial production 40 bbls. in one-half hour through open tubing, total depth 3,622 feet.

South Rusk County

Cullen Oil Co.'s No. 2 Giles, top sand 3,720 feet, initial production 50 bbls. per hour through open tubing, total depth 3,720 feet.

East Shore Oil Co.'s No. 5 Fox, top sand 3,680 feet, initial production 45 bbls. in one-quarter hour through open tubing, total depth 3,700 feet.

East Texas Oil & Refining Co.'s No. 3 Giles, top sand 3,652 feet, initial production 55 bbls. per hour through open tubing, total depth 3,700 feet.

Gulf Production Co.'s No. 8 Murphy, top sand 3,704 feet, initial production 90 bbls. per hour through open tubing, total depth 3,714 feet.

Humble Oil & Refining Co.'s No. 26-A Kangerga, top sand 3,672 feet, initial production 51 bbls. per hour through open tubing, total depth 3,710 feet.

Letwin and Lippett's No. 2 G. W. Eaton, top sand 3,769 feet, initial production 75 bbls. per hour through open tubing, total depth 3,771 feet.

Mid-Kansas Oil and Gas Co.'s No. 38 M. M. Cross, top sand 3,624 feet, initial production 66 bbls. per hour through 2-inch open tubing, total depth 3,629 feet.

Sinclair Prairie Oil Co.'s No. 37 Kinney, top sand 3,629 feet, initial production 143 bbls. per hour through open tubing, total depth 3,641 feet.

Smith County

Magnolia Petroleum Co.'s No. 9 J. R. Wright, top sand 3,629 feet, initial production 65 bbls. per hour through open tubing, total depth 3,643 feet.

Sinclair Prairie Oil Co.'s No. 21 A. S. Jarvis, top sand 3,707 feet, initial production 18 bbls. in one-fourth hour through open tubing, total depth 3,716 feet.

Sinclair Prairie Oil Co.'s No. 18-C A. S. Jarvis, top sand 3,697 feet, initial production 36 bbls. in one-fourth hour through open tubing, total depth 3,697 feet.

The Texas Company's No. 9 Blackwell, top sand 3,709 feet, initial production 80 bbls. per hour through open tubing, total depth 3,724 feet.

Upshur County

Conservative Oil Co.'s No. 7 Victory, top sand 3,642 feet, initial production 85 bbls. per hour through open tubing, total depth 3,679 feet.

Mudge Oil Co.'s No. 3 Bland, top sand 3,680 feet, initial production 75 bbls. per hour through open tubing, total depth 3,715 feet.

Paul Pewitt's No. 1 A. J. Sanders, top sand 3,619 feet, initial production 75 bbls. per hour through open tubing, total depth 3,672 feet.

Roeser and Pendleton's No. 5-A Satterwhite, top sand 3,667 feet, initial production 85 bbls. per hour through open tubing, total depth 3,695 feet.

Steen Drilling Co.'s No. 7 Loden, top sand 3,648 feet, initial production 75 bbls. per hour through open tubing, total depth 3,698 feet.

WILDCAT COMPLETIONS

Freestone County

New Deal Oil Co.'s No. 1 O. Burleson, dry and abandoned, total depth 1,360 feet. (Wiley Carter Survey.)

Henderson County

W. C. McGlothlin and others' No. 1 T. H. English, top Pecan Gap 2,512 feet, base 2,740 feet, top Austin Chalk 3,501, base 3,952 feet, top Woodbine sand 4,430 feet, dry and abandoned, total depth 4,523 feet.

Hopkins County

Mudge Oil Co.'s No. 1 T. R. Cargill, top Pecan Gap 1,345 feet, base 1,425 feet, top Austin chalk 2,030 feet, top Woodbine sand 3,030 feet, top sand 3,342 feet, base 3,416 feet, top red beds 3,563 feet, dry and abandoned, total depth 3,717 feet.

Hunt County

Solar Exploration Co.'s No. 1-A N. A. Gregory, dry and abandoned, total depth 1,475 feet.

Van Pool—Van Zandt County

Pure Oil Co.'s No. 4 J. H. Leonard, initial production first 24 hours 50 bbls., total depth 2,967 feet.

Henry C. Morris, Natural Gas Leader, Dies at Dallas After Brief Illness

DALLAS, Tex., Aug. 21.—The natural gas industry lost one of its outstanding leaders with the death of Henry

HENRY C. MORRIS

C. Morris, president of the Dallas Gas Co. and a pioneer gas man in the Southwest. He was stricken ill following his return from a trip to Salt Lake City, Utah, and died at Baylor Hospital in Dallas on August 17 after an illness of two weeks.

Mr. Morris was known as one of the leading natural gas men in the United States, for many years taking a prominent part in the development of the industry. His counsel was sought by executives of many other companies throughout the country. He was chiefly responsible for bringing to Dallas its natural gas service, the change over from manufactured gas 23 years ago having been accomplished under his direction and throughout these years has given unremitting toil to perfecting this service.

Mr. Morris' activities in the natural gas business included not only the Dallas Gas Co. but was national in scope and took in the active direction of a far-flung system of gas companies from Juarez, Mexico, to the Pacific Northwest. His supervision included the operation of the Guthrie Gas Service Co., Guthrie, Okla.; the Texas Cities Gas Co., operating in Paris, Brenham, El Paso, Waco and Galveston; the Fort Worth division of the Lone Star Gas Co.; the Juarez Gas Co., in Mexico; the Council Bluffs Gas Co., in Iowa; and the Northwest Cities Gas Co. which includes distribution systems in Walla Walla, Yakima and Clarkston, Wash.; Astoria, Pendleton and Eugene, Springfield, North Bend and Marshfield, Ore., and Lewistown, Idaho.

He was a director of the American Gas Association, and former chairman of the Natural Gas Department of the American Gas Association. He was also vice chairman of the National Directing Committee of Executives of the association.

He was born in Detroit, Mich., and began his business career there working in a gas meter repair shop. In 1902 he became superintendent of construction for the Saginaw Gas Co., in Michigan, and three years later he was made assistant manager of the Bay City (Mich.) Gas Co. He came to Dallas in 1909 as superintendent of construction and operation for the Dallas Gas Co., and built up the system from 98 miles of pipe line and 8,743 meters to an extensive network of 765 miles of pipe line serving almost 70,000 meters.

ROCKY MOUNTAIN AREA

Average daily production for the week ending August 19 follows:

WYOMING

	Bbls.
Salt Creek	17,270
Big Muddy	1,790
Badger Basin	40
Byron-Garland	840
Byron-East	Shut in
Dallas Derby	500
Dutton Creek	70
Elk Basin	540
Ferris	20
Frannie	190
Grass Creek	Shut in
Greybull	0
Hamilton Dome	830
Hudson	300
LaBarge	1,150
Lance Creek	190
Lost Soldier	1,680
Mule Creek	Shut in
Midway	70
Notches	Shut in
Oregon Basin	1,500
Osage	600
Pilot Butte	30
Rex Lake	20
Rock River	1,320
South Casper	700
Poison Spider	120
Teapot	20
Warm Springs	0
Total	29,790

MONTANA

Buckley-Border	390
Cat Creek	720
Cut Bank	740
Dry Creek	130
Kevin-Sunburst	3,590
Lake Basin	50
Pondera	1,120
Total	6,740

COLORADO

Florence	210
Fort Collins and Wellington	590
Iles Dome	550
Moffat	540
Orchard	140
Rangely	50
Tow Creek	230
Total	2,310

NEW MEXICO

Artesia	590
Cooper area	70
Empire area	0
Eunice area	930
Getty Pool	0
Hobbs	33,540
Hogback	210
Hospah	Shut in
Jal	1,630
Lea area	2,180
Jackson	960
Maljamar	230
Rattlesnake	720
Table Mesa	80
Total	41,140
Total all fields	79,980
Total previous week	75,300
Difference	4,680

OIL FIELD GAS ENGINE CODE

C. A. Young, secretary of the American Petroleum Institute's Division of Production, at Dallas, has announced the publication of A.P.I. Code No. 11-B "Recommended Field Practice for the Installation, Operation and Care of Oil Field Gas Engines," the result of years of work on the part of the Institute's committee on the standardization of pumping equipment and engines, of which T. E. Swigart of the Shell Petroleum Corp., Houston, is national chairman and H. N. Marsh of the General Petroleum Corp. of California, Los Angeles, is national secretary. The code discusses such items as installation, including full-page foundation plans and templates; concrete work, piping, engine house with complete designs, safety guards, fuel supply, ignition, lubrication, cooling, inspection, engine troubles, their causes and remedies, and operation.

VOLUNTARY RATE REDUCTION

SPRINGFIELD, Ill., Aug. 21.—A voluntary proposal for reduction in house heating rates under an optional wholesale schedule has been filed with the Illinois Commerce Commission by the Panhandle Illinois Pipe Line Co., it was announced by A. D. Mackie, general manager of the Central Illinois Light Co. Unless otherwise ordered by the commission, the new rate schedules will become effective in Illinois September 9. The wholesale rates would be lowered under the proposed schedules where local utilities adopt proportional house heating charge reductions.

East Central Texas Wildcats

(Continued from Page 40)

Joe Edgar's No. 2 Todd-Stinchcomb, 79 ft. N along W line of Stanolind's Key tract, W. Hart Sur. ..... Drlg. 2,760 ft.
Foundation Oil Co.'s No. 4 L. Willis, 390 ft. from N and E lines of 13.47-ac. tract, G. W. Hooper Sur. ..... Waiting on cmt. to set 3,615 ft.
Goodwin et al's No. 3 Johnson, 300 ft. E of Katter & Mansell's No. 1 Church, M. Dillard Sur. ..... Running csg. 4,600 ft.
Gulf Production Co.'s No. 40 J. C. Judge, 5,060 ft. S and 3,350 ft. W of SW cor. of W. C. Alvice Sur., F. W. Johnson Sur. ..... Drlg. 250 ft.
Gulf Production Co.'s No. 41 Judge, 4,880 ft. S and 2,690 ft. W of SW cor. of W. C. Alvice Sur., F. W. Johnson Sur. ..... Drlg. 2,918 ft.
Houston Oil Co.'s No. 4 E. W. Clemments, 120 ft. N and 330 ft. E of SW cor. of lease, Carl Rhodes Sur. ..... Rig up.
Humble Oil & Refining Co.'s No. 6 W. C. Mackey, 294 ft. from E line and midway between N and S lines of 5.5-ac. lease, H. F. Rodgers Sur. ..... Waiting on cmt. to set 3,621 ft.
Island Oil Co.'s No. 2 W. Williams, 200 ft. from S line and 980 ft. from E line of survey, G. F. Penn Sur. ..... Derrick.
Leckner and Hubbard's No. 2 Doby, 4,400 ft. from N line and 4,320 ft. from E line of survey, W. H. Castleberry Sur. ..... Location.
Magnolia Petroleum Co.'s No. 5 Nicholson, 330 ft. from S and E lines of lease and 2,500 ft. from N line and 7,680 ft. from W line of survey, D. Sanches Sur. ..... Derrick.
Magnolia Petroleum Co.'s No. 11 O. F. Smith, 583 ft. E of No. 10 and 583 ft. NW of No. 2, H. Edwards Sur. ..... Set surface csg. 121 ft.
Payne et al's No. 1 Swain Holcomb, 1,980 ft. from S line and 1,170 ft. from W line of survey, H. R. Hokit Sur. ..... S.D. 2,450 ft.
B. F. Phillips' No. 3-B League, 330 ft. from W line of lease and 180 ft. from SW cor. of "B" lease, H. Rogers Sur. ..... S.D. 300 ft.
Rancho Oil Co.'s No. 2 Johnson, 2,520 ft. from S line and 1,540 ft. from E line of survey, M. Dillard Sur. ..... Drlg. 2,764 ft.
Hiram Reed et al's No. 2 Rodger Lacy, 4,510 ft. from N line and 3,800 ft. from W line of survey, M. V. Winkle Sur. ..... Drlg. 2,625 ft.
Rhoads Drilling Co.'s No. 5 Sabine River (Tract No. 4), 3,490 ft. from W and 510 ft. S of NW cor. of W. C. Alvice Sur. ..... Set surface csg. 150 ft.
Rosier and Pendleton's No. 7-A Nicholson, 2,050 ft. from N line and 330 ft. from E line of survey, M. Mann Sur. ..... Waiting on standard rig; T.D. 3,676 ft.
Rowan and Nichols' No. 4-A Todd, 170 ft. from W line and center of N and S lines of 25-ac. tract, W. H. Castleberry Sur. ..... Derrick.
Sabine Oil Co.'s No. 3-A Falvey, 330 ft. from N and E lines of 28.7-ac. lease, M. Mann Sur. ..... Location.
Shasta Oil Co.'s No. 3-B G. W. Richey, 150 ft. from W line and 818 ft. from S line of lease, C. Rhodes Sur. ..... Rig up.
A. L. Slaughter's No. 1 R. B. White, 480 ft. from N line and 30 ft. from E line of survey, C. H. Alexandria Sur. ..... Fishing; T.D. 2,871 ft.
Snowden and McSweeney's No. 4 M. Bonner, 332 ft. from S line and 1,046 ft. from W line of survey, M. McRae Sur. ..... Drlg. 3,102 ft.
J. B. Sowell's No. 5 W. P. Luce, 660 ft. W of No. 2, E. L. Walker Sur. ..... Bldg. derrick.
Sun Oil Co.'s No. 12 J. W. Akin, 660 ft. from Nos. 5 and 6 and 330 ft. from S line of lease, William G. Painter Sur. ..... Drlg. 350 ft.
Sun Oil Co.'s No. 9 A. S. Morton, 330 ft. from N and W lines of lease, S. Baggett Sur. ..... Set surface csg.
Sun Oil Co.'s No. 5 J. T. Elder, 330 ft. from W line of lease and 660 ft. S of No. 4, John Wilkerson Sur. ..... Location.
Tide Water Oil Co.'s No. 9 M. B. Hughey, 914 ft. from N line and 1,173 ft. from E line of lease, J. Hillard Sur. ..... Rig up.
Wheelock and Collins' No. 7 Clayton heirs, 150 ft. from S line and 1,290 ft. from E line of survey, L. B. Outlaw Sur. ..... Drlg. 2,765 ft.
Yeager et al's No. 1 Howard, 300 ft. E of No. 2 and 100 ft. from N line and 2,050 ft. from E line of survey, Mary Scott Sur. ..... Drlg. 3,230 ft.

HENDERSON COUNTY

Campbell and Champlin's No. 1 R. S. Ansley, 108 varas S and 623 varas W of NE cor. of lease, 6 miles SE of Buffalo, N. H. Thompson Sur. ..... Derrick.
McElreath and Suggett et al's No. 1 Ferguson, 330 ft. out of most southerly NW cor. of 252.8-ac. tract, William P. Wyche Sur. ..... Drlg. 4,843 ft.
Roeser & Pendleton's No. 1 L. R. Billett, 330 ft. from N line and 2,310 ft. from E line of survey, Cecil Bobs Sur. ..... Bldg. derrick.

HOPKINS COUNTY

Culberson & Lynch's No. 1 Louis Stribling, 150 ft. from NW cor. of tract and lease, Thomas Norris Sur. .... Rig up.

KAUFMAN COUNTY

J. M. Scott et al's No. 2 Pannill, 2,550 ft. from NE line and 6,000 ft. S of Texas Midland Railroad, A. Cherino Sur. ..... Drlg. 2,873 ft.

LEON COUNTY

Bateman et al's No. 1 A. C. Carlyle, 150 ft. out of NE cor. of survey, Mary Elem Sur. ..... Reaming to bottom; T.D. 5,925 ft.
Shell Petroleum Corp.'s No. 1 Beggs, center of 123.5-ac. tract, John Carter Sur. ..... Fishing; T.D. 5,593 ft.

LIMESTONE COUNTY

C. C. Curtis et al's No. 1 Emma Daniels, 150 ft. from W line and 150 ft. from S line of 42.5-ac. tract in Pedro Varela Sur. ..... Waiting on cmt. to set 60 ft.

RUSK COUNTY

Barnsdall Oil Co.'s No. 4 T. H. Gill, W offset to McDonald's No. 2 Brightwell, R. W. Smith Sur. ..... Waiting on cmt. to set 3,661 ft.
Barnsdall Oil Co.'s No. 5 T. H. Gill, 500 ft. S of No. 4 and 1,250 ft. from N line and 2,600 ft. from E line of survey, R. W. Smith Sur. ..... Bldg. derrick.
A. P. Cary's No. 4 Rae Redwine, 330 ft. from S and W lines of lease, M. V. Pena Sur. ..... Derrick.
Cordova Union Oil Co.'s No. 1-D C. O. Christian, 1,490 ft. from N line and 1,880 ft. from W line of survey, D. Clark Sur. ..... Waiting on standard rig; T.D. 3,740 ft.
East Texas Refining Co.'s No. 2 Andy Givens, 151 ft. from S line and 152 ft. from W line of lease, R. W. Smith Sur. ..... Waiting on cmt. to set 3,695 ft.
East Texas Refining Co.'s No. 10 D. Wills, 40 ft. W and 306 ft. S of SE cor. of Stanolind Beall lease, W. P. Chisum Sur. ..... Drlg. 3,268 ft.
East Texas Refining Co.'s No. 4 Giles, 3,450 ft. from N line and 1,590 ft. from E line of survey, M. J. Pru Sur. ..... Moving in material.
Gulf Production Co.'s No. 6 Maxwell, 4,620 ft. from N line and 5,130 ft. from E line of survey, F. Cordova Sur. ..... Drlg. 1,962 ft.
H. & D. Oil Co.'s No. 1 J. N. Peterson, 2,360 ft. from S line and 33 ft. from E line of survey, W. R. Cooke Sur. ..... Running csg. 3,590 ft.
Houghton Corp.'s No. 2 W. E. Wiley, 225 ft. from N and 135 ft. from E and W lines of 10-ac. tract, Ximenes Sur. ..... Drlg. 2,630 ft.
Houston Oil Co.'s No. 6 S. S. Laird, 2,850 ft. from N line and 920 ft. from E line of survey, I. Ruddle Sur. ..... Set surface csg. 101 ft.
Houston Oil Co.'s No. 6-B Brightwell, 150 ft. from S and W lines of 20-ac. lease, R. E. Winn Sur. ..... Testing; T.D. 3,662 ft.
Jordan & Ramsey's No. 1 L. W. Prior, 830 ft. from N line and 607 ft. from E line of 53-ac. lease, Walker Pettit Sur. ..... Drlg. 3,330 ft.
Magnolia Petroleum Co.'s No. 11 C. C. Still, 330 ft. from N line of lease and 762 ft. E of No. 10, M. McCabe Sur. ..... Rig up.
Martin and Cockburn's No. 2 A. Thrash, 1,380 ft. from S line and 1,270 ft. from W line of survey, E. Collard Sur. ..... Drlg. 1,885 ft.
Joe Marr Drilling Co.'s No. 1 M. Lee, 459 ft. S and 330 ft. W of SW cor. of Stanolind's 100-ac. Lacy tract, J. H. Sparks Sur. ..... S.D. 3,629 ft.; made two heads of 10 bbls. in 10 minutes.
Mid-Kansas Oil & Gas Co.'s No. 50 M. M. Cross, 4,500 ft. from S line and 2,190 ft. from W line of survey, J. B. De Cadena Sur. ..... Derrick.
Mid-Kansas Oil & Gas Co.'s No. 45 W. T. Grissom, 1,695 ft. from S line and 669 ft. from E line of J. C. Woolan Sur., J. E. Brown Sur. ..... Waiting on cmt. to set 3,620 ft.
Walker Murray et al's No. 1 W. H. Arnold, 330 ft. from S and W lines of 50-ac. tract, Levi N. Sparks Sur. ..... Waiting on cmt. to set; T.D. 3,722 ft.
Patterson Drlg. Co.'s No. 3 Brock Estate, 2,320 ft. from N line and 100 ft. from E line of survey, R. W. Smith Sur. ..... Derrick.
Shoreline Oil Co.'s No. 2 Brightwell, 700 ft. from N line and 1,560 ft. from E line of survey, R. W. Smith Sur. ..... Drlg. 2,175 ft.
Sinclair Prairie Oil Co.'s No. 39 Kinney, 4,120 ft. from N line and 330 ft. from W line of survey, J. B. De Cadena Sur. ..... Drlg. 2,930 ft.
Texas Co.'s No. 10 Bank of Overton, 1,001 ft. S and 861 ft. W of NE cor. of lease and survey, John C. Smith Sur. ..... Drlg. 3,422 ft.
Texas Co.'s No. 3 Cora Hanna, 302 ft. from S line and 319 ft. from W line of lease, J. B. De Cadena Sur. ..... Rig up.
Texas Co.'s No. 5 J. W. Turner, 955 ft. from S line and 330 ft. from W line of lease and survey, J. M. Scott Sur. ..... Rig up.
Tide Water Oil Co.'s No. 4 Glenn Pool, 2,580 ft. from N line and 3,990 ft. from E line of survey, M. J. Pru Sur. ..... T.D. 3,728 ft.
Tide Water Oil Co.'s No. 7 Leverett, 330 ft. from S line and 860 ft. from E line of lease and survey, W. W. Simms Sur. ..... Waiting on cmt. to set 3,625 ft.
Tide Water Oil Co.'s No. 9 J. S. Bean, 330 ft. from W line and 880 ft. from E line of lease, J. Lewis Sur. ..... Drlg. 1,125 ft.
Weaver-Crim Corp.'s No. 3-B Bean, 322 ft. from S line and 1,270 ft. from W line of survey, Mary Cogswell Sur. ..... Waiting on cmt. to set 3,704 ft.

SMITH COUNTY

Hunt Production Co.'s No. 7-B R. W. Fair, 630 ft. from N line and 875 ft. from W line of 138-ac. tract, J. Vargas Sur. ..... Drlg. 1,594 ft.
Long Drilling Co.'s No. 3 G. A. Turner, D. W. Campbell Sur. ..... Derrick.
Alex McCutcheon's No. 3 A. S. Jarvis, 3,300 ft. from S line and 5,320 ft. from E line of survey, Juan Vargas Sur. ..... Rig up.
Alex McCutcheon's No. 4 Stone, 890 ft. from N line and 960 ft. from W line of survey, D. Shaw Sur. .... Derrick.
Mid-Kansas Oil & Gas Co.'s No. 20 J. H. Sharp, 1,037 ft. from S line and 990 ft. from E line of lease, M. D. L. S. Coy Sur. ..... Drlg. 1,012 ft.
Mid-Kansas Oil & Gas Co.'s No. 21 J. H. Sharp, 5,500 ft. from N line and 2,310 ft. from E line of survey.. Rig up.
Sinclair Prairie Oil Co.'s No. 20-A A. S. Jarvis, 1,250 ft. from S line and 3,500 ft. from E line of survey, Juan Vargas Sur. ..... Waiting on cmt. to set; T.D. 3,693 ft.
Sinclair Prairie Oil Co.'s No. 22-A A. S. Jarvis, 330 ft. from S line and 1,420 ft. from E line of survey, Juan Vargas Sur. ..... Waiting on cmt. to set; T.D. 3,675 ft.
Sulton and Hawkins' No. 3 Cemetery, 800 ft. from N line and 2,580 ft. from E line of survey, J. Jordan Sur. ..... Drlg. 2,860 ft.

UPSHUR COUNTY

M. T. Flannagan's No. 2 H. F. Whitehurst, 1,050 ft. from N line and 330 ft. from E line of lease, McKinley and Williams Sur. ..... Derrick.
W. V. Greer's No. 1 A. B. Mackey, 2,400 ft. from N line and 4,080 ft. from E line of survey, H. Pineda Sur. ..... Waiting on cmt. to set; T.D. 3,733 ft.
Magnolia Petroleum Co.'s No. 1 C. Brooks, 345 ft. from S line and 330 ft. from E line of 50-ac. lease, J. F. Davidson Sur. ..... Derrick.
Magnolia Petroleum Co.'s No. 2 C. Brooks, 330 ft. from S and W lines of 50-ac. tract, J. F. Davis Sur. .... Location.
Perrin & Fell's No. 3 William Landers, 330 ft. from S line and 330 ft. from W line of 64.34-ac. tract, G. W. Hooper Sur. ..... Testing; T.D. 3,711 ft.
J. O. Wood et al's No. 1 W. F. Smith, 330 ft. from N and E lines of 25-ac. lease, J. M. Pineda Sur. .. Drlg. plug; T.D. 3,707 ft.

VAN ZANDT COUNTY

L. C. Martin et al's No. 1 E. T. Rhodes, 150 ft. from E line and 150 ft. from S line of 34.2-ac. tract, William Page Sur. ..... Spudding.
Pure Oil Co.'s No. 6 R. V. White, 250 ft. N of S line and 2,000 ft. W of E line of R. V. White 19.2-ac. tract, Mund Gross Sur. ..... Location.
Ray Drilling Co.'s No. 1 J. W. Mallory, 1,150 ft. from S line and 150 ft. from W line of 317-ac. tract, John Walling Sur. ..... Derrick.
Van Oil Association's No. 1 Tankersley, 200 ft. from E and 1,000 ft. from S of farm, L. Landers Sur. ..... T.D. 1,284 ft.

WOOD COUNTY

D. T. Cauble and Thompson's No. 1 N. G. Bobbett, 650 ft. from S line and 220 ft. from W line of tract, 2½ miles NW of Mineola, Daniel Fuller Sur. ..... Set surface csg. 101 ft.; to drill plug.

Wildcat Operations in West Texas

(Continued from Page 39)

JONES COUNTY

Dyer's No. 1 Odom, 200 ft. from S and 170 ft. from W of N 320 acres, G. Zumwalt Sur. ..... Drlg. 1,700 ft.
J. B. Kirk's No. 1 R. Gist, 150 ft. from N line, 150 ft. from E of SW cor. of survey ..... Spud.

LOVING COUNTY

R. L. Allen's No. 1 fee, 4,290 ft. from NE line, 330 ft. from SE line, Sec. 82, H.&T.C. Sur. ..... Location.
R. L. Allen's No. 2 fee, 4,290 ft. from NE line, 990 ft. from SE line, Sec. 82, Blk. 33, H.&T.C. Sur. .... Location.

R. L. Allen's No. 3 fee, 4,290 ft. from NE line, 990 ft. from NW line, Sec. 32, Blk. 33, H.&T.C. Sur. .... Location.
R. L. Allen's No. 4 fee, 4,290 ft. from NE line, 330 ft. from NW line, Sec. 32, Blk. 33, H.&T.C. Sur. .... Location.
Eppenauer Drlg. Co.'s No. 1-C Allen, 330 ft. from NW line, 2,310 ft. from SW line, Sec. 90, Blk. 1, W.& NW Sur. .... Location.
Eppenauer Drlg. Co.'s No. 1-A Victor, 330 ft. from SW and 338 ft. from SE of NW of N half Sec. 4, Blk. 2, W.&N.W. Sur. .... Rigging up standard tools.

MITCHELL COUNTY

Neeley-Prater's No. 1 Morrison, 330 ft. from N line and 330 ft. from E line of Sec. 34, Blk. 29, T.&P.R.R. Sur. .... Rigging up machine.

PECOS COUNTY

Humble Oil & Refining Co.'s No. 1 White, Baker, 1,320 ft. from N and E lines of Sec. 44, Blk. Z, T.C. Sur.... Cemented back from 3,220 ft. to 2,460 ft. to shut off sulphur water, T.D. 3,317 ft.
Mid-Kansas O. & G. Co.'s No. 18 Smith-Taylor, 1,296 ft. from S line, 1,320 ft. from W line, Sec. 33, G. C.&S.F. Sur., Blk. 194 .... Location.
Sproles & O'Neal's (rec.) No. 2-A Fred Turner, Jr., 196 ft. from N line, 300 ft. from W line of Fred Turner, Jr., Sur. No. 1 .... Location.
Sproles & O'Neal's (rec.) No. 4-A Fred Turner, Jr., 1,646 ft. from N line, 250 ft. from W line of Fred Turner, Jr., Sur. No. 1 .... Location.
Sproles & O'Neal's (rec.) No. 5-A Fred Turner, Jr., 250 ft. from N, 250 ft. from W of C SE cor. of Fred Turner, Jr., Sur. No. 1 .... Location.
Sproles & O'Neal's No. 6-A Fred Turner, Jr., 1,940 ft. from S line, 300 ft. from W line of Fred Turner Sur. No. 1 .... Location.
Sproles & O'Neal's No. 7-A Fred Turner, 250 ft. from S line, 250 ft. from W line of Fred Turner, Jr., Sur. No. 1 .... Location.
Sproles & O'Neal's No. 8-A Fred Turner, Jr., 550 ft. from S line, 550 ft. from E line of Fred Turner Jr., Sur. .... Location.
Sproles & O'Neal's No. 1-B Fred Turner, Jr., 250 ft. from N line, 308 ft. from E line of Fred Turner, Jr., Sur. .... Location.
Sproles & O'Neal's No. 2-B Fred Turner, Jr., 250 ft. from N line, 305 ft. from W line of Fred Turner, Jr., Sur. .... Location.
Sproles & O'Neal's No. 3-B Fred Turner, Jr., 356 ft. from S line, 250 ft. from W line of Fred Turner, Jr., Sur. .... Location.
Sproles & O'Neal's No. 4-B Fred Turner, Jr., 717 ft. from S line, 250 ft. from E line of Fred Turner, Jr., Sur. No. 2 .... Location.
Sproles & O'Neal's No. 1-C Fred Turner, 250 ft. from N line, 250 ft. from W line of Fred Turner, Jr., Sur. .... Location.
Sproles & O'Neal's No. 2-C Fred Turner, Jr., 205 ft. from N line, 205 ft. from E line of Fred Turner, Jr., Sur. No. 3 .... Location.
Sproles & O'Neal's No. 1-D Fred Turner, Jr., 150 ft. from N line, 250 ft. from W line of Fred Turner Sur. No. 41 .... Location.

REAGAN COUNTY

Big Lake Oil Co.'s No. 10-C University, 2,025 ft. from S and 375 ft. from W, Sec. 25, Blk. 9 .... S.D. 9,562 ft.
Big Lake Oil Co.'s No. 11-C University, 2,300 ft. from S line and 2,140 ft. from E line, Sec. 12, Blk. 2, University Sur. .... Top pay 8,532 ft., tested 830 bbls. oil in 23 hours, T.D. 8,800 ft.
Big Lake Oil Co.'s No. 12-C University, 928 ft. from N. 740 ft. from E line of Sec. 12, Blk. 2, University land .... T.D. 3,887 ft.
Continental Oil Co.'s No. 9-B University, 1,900 ft. from S line, 1,805 ft. W of E line of Sec. 39, Blk. 9, University Land Sur. .... Drlg. 4,714 ft.
G. R. Snider, Trustee's No. 1 D. E. Hughes, 1,245 ft. from E and 990 ft. S of the NW cor. of Sec. 8, G.C.&S.F. Sur. .... Location.
J. P. Williams et al's No. 1 Scott, 1,650 ft. from N and 330 ft. from W, Sec. 179, Blk. 1, T.&P. Sur. .... S.D. 2,450 ft.

REEVES COUNTY

Freels et al's No. 1 J. B. Greeman, 330 ft. from NE and 2,310 ft. from S line of Sec. 21, Blk. 2, H.&G.N. Sur... U.R. T.D. 1,205 ft.
Merry Brothers & Perrin's No. 1 H. H. Johnson, 1,015 ft. from S and W lines of Sec. 5, Blk. 4, H.&G.N. Sur.... T.D. 4,688 ft., plugged back to 4,400 ft., will shoot.

RUNNELS COUNTY

Simmons et al's No. 1 H. E. Wade, 150 ft. from S and 1,650 ft. from W line, Subdv. No. 3, Norvel Travis Sur. No. 523 .... Drlg. 135 ft.

SCHLEICHER COUNTY

Eastland Oil Co.'s No. 1 Joe Tisdale, Sec. 29, Blk. M, G.H.&S.A. Sur. .... Fishing 6,108 ft.

TAYLOR COUNTY

Crissman et al's No. 1 City of Abilene, 1,300 ft. from N and 1,250 ft. from E lines of Sec. 66, Bal Sur. .... Rigging up cable tools.

UPTON COUNTY

Gulf Prod. Co.'s No. 103 McElroy, 1,980 ft. from S and 660 ft. from W, Sec. 197, Blk. F, C.C.S.D.&R.G.N.G.... Drlg. 5,775 ft.

WARD COUNTY

Abell Brothers et al's No. 1 S. S. Owen et al, 330 ft. from NW line and 2,310 ft. from SW line of Sec. 16, H.&T.C. Sur., Blk. 5 .... Rigging up machine.
Abell Brothers' No. 1 Archenhold et al, 2,310 ft. from NE line and 330 ft. from SE line of Sec. 23, H.&T.C. Sur., Blk. 5 .... Location.
Atlantic Oil & Prod. Co.'s No. 3 W. D. Johnson, 1,650 ft. from NW line of the NE half of Sec. 9, H.&T.C. Sur., Blk. 34 .... Moving in rotary.
Atlantic Oil & Prod. Co.'s No. 4 W. D. Johnson, 330 ft. from NE line and 990 ft. from SE line of NE half of Sec. 9, H.&T.C. Sur., Blk. 34 .... Location.
George Bentley et al's No. 1 C. Bergman, 330 ft. from NE line and 2,310 ft. from NW lines of Sec. 26, Blk. 5, H.&T.C. Sur. .... S.D., T.D. 2,650 ft.
George Bentley et al's No. 1 A. Emory, 1,320 ft. from NE line and 2,310 ft. from NW line of Sec. 26, Blk. 5, H.&T.C. Sur. .... T.D. 2,301 ft.
Eppenauer Drlg. Co.'s No. 1 University, 330 ft. from N and 440 ft. from E of S half of Blk. 16 .... S.D. 1,847 ft.
Jack Leidecker et al's No. 1 A. Archenhold et al, 2,310 ft. from NE and 2,310 ft. from NW line of Sec. 23, H.&T.C.R.R. Sur., Blk. 5 .... Rigging up machine.
S. A. Thompson et al's No. 3 W. D. Johnson, 330 ft. from NE line and 1,650 ft. from NW line of the SW half of Sec. 9, H.&T.C.R.R. Sur., Blk. 34.... Drlg. 2,195 ft.
S. A. Thompson et al's No. 4 W. D. Johnson, 330 ft. from NE line and 2,310 ft. from NW line of the SW half of Sec. 9, H.&T.C.R.R., Blk. 34.... Location.
Wahlenmaier Pet. Corp.'s No. 1 R. M. Blodget, 990 ft. from SW line, 330 ft. from SE line of Sec. 26, H.&T.C. Sur., Blk. 5 .... Location.

WINKLER COUNTY

Harry Adams et al's No. 3 Scarborough, 990 ft. from N line and 990 ft. from E line of Sec. 1, Blk. 77, P.S.L. Sur. .... Location.
Colonial Oil Co.'s No. 2 State Scarborough, 990 ft. from W and 1021⅛ ft. N of the NE cor. of Sec. 1, School Blk. 77, located in Sec. 1, Blk. W. F. .... Rig up.
Sid Richardson's No. 3 John Seally, 2,310 ft. from the N line and 330 ft. from the W line of Sec. 94, G.&M.B.B.&A. Sur. .... Drlg. 2,560 ft.

Summary of California Oil Field Operations for June, 1933

According to figures collected by the American Petroleum Institute, the total production of crude oil in California for June amounted to 14,344,654 bbls., an average of 478,155 bbls. per day. This is an increase of 167 bbls. per day over May production.

CRUDE PETROLEUM PRODUCTION
(Figures of production and stocks are in barrels of 42 gallons)

	Barrels per month	Daily average June, '33	Daily average May, '33	Daily average June, '32
Group No. 1—				
Coalinga	322,463	10,749	10,928	10,544
Elk Hills	380,231	12,674	12,596	12,127
Fruitvale	138,740	4,625	4,938	4,134
Kern River	271,543	9,051	8,659	9,216
Kettleman Hills—Middle Dome	13,326	444	854	...
Kettleman Hills—North Dome	1,841,233	61,375	61,095	59,951
Lost Hills-Belridge	232,847	7,428	9,299	8,873
McKittrick	51,692	1,723	1,741	1,815
Midway-Sunset	1,386,041	46,201	46,892	49,311
Mountain View	23,653	788	824	...
Mount Poso	238,360	7,945	8,362	7,900
Round Mountain	80,873	2,696	2,844	3,345
Wheeler Ridge	14,172	472	482	511
Group No. 2—				
Capitan	368	12	17	...
Elwood	408,219	13,607	13,390	13,567
Rincon	56,676	1,889	1,933	1,426
San Miguelito	34,684	1,156	1,140	276
Santa Barbara	25,761	859	856	344
Santa Maria	73,045	2,435	2,499	2,904
Summerland	3,027	101	67	111
Ventura Avenue	992,258	33,075	32,646	28,110
Ventura-Newhall	97,554	3,252	3,289	3,575
Watsonville	1,800	60	60	61
Group No. 3—				
Coyote	300,240	10,008	9,946	9,939
Dominguez	571,602	19,053	19,595	16,097
Fullerton (Brea Olinda)	234,627	7,488	7,461	8,263
Huntington Beach	919,471	30,649	29,136	20,742
Inglewood	355,875	11,863	12,020	13,534
Lawndale	6,999	233	220	360
Long Beach	2,236,377	74,546	73,274	72,362
Los Angeles-Salt Lake	27,254	909	855	1,097
Montebello	141,298	4,710	4,820	6,337
Newport	...	...	...	...
Playa Del Rey	349,808	11,660	11,875	15,506
Potrero	8,811	294	352	361
Richfield	192,875	6,429	6,419	6,357
Rosecrans	91,684	3,056	3,170	2,949
Santa Fe Springs	1,619,610	53,987	53,844	59,552
Seal Beach	392,751	13,092	12,238	12,427
Torrance	191,029	6,368	6,251	6,100
Whittier	35,777	1,193	1,094	1,126
Total June	14,344,654	478,155	477,988	470,622
Total May	14,817,632	477,988		
Increase	*472,979	167		

*Decrease.

TOTAL STOCKS HELD BY CALIFORNIA OIL COMPANIES, BOTH INSIDE AND OUTSIDE THE UNITED STATES

	June 30, 1933	May 31, 1933	June stock decreases	June 30, 1932
Heavy crude and all grades of fuel, gas and Diesel oils	100,492,554	99,975,789	*517,065	100,053,802
Refinable crude	37,504,810	38,650,916	1,146,106	40,836,891
Finished gasoline, engine distillate and natural gasoline	14,790,506	15,073,930	283,424	16,554,338
Crude gasoline and naphtha distillates	4,004,974	4,399,335	394,361	4,745,948
All other stocks	†7,386,169	†7,226,555	*159,611	†7,241,079
Total all stocks	164,179,213	165,326,528	1,147,215	169,432,058
*Increase. Barrels of coke included	†649,709	†646,997		†662,720

OIL FIELD DEVELOPMENT

	New rigs up	Active drilling	Producers completed	Daily initial output	Active producing	Abd. wells Drillers	Abd. wells Producers
Group No. 1—							
Coalinga	0	0	0	0	620	0	0
Elk Hills	0	0	0	0	195	0	0
Fruitvale	0	2	0	0	56	0	0
Kern River	0	1	0	0	970	0	0
Kettleman—Middle Dome	0	0	0	0	1	0	0
Kettleman—North Dome	0	12	0	0	38	0	0
Lost Hills-Belridge	0	2	0	0	145	0	0
McKittrick	0	0	0	0	111	0	0
Midway-Sunset	1	2	1	111	1,758	0	2
Mountain View	4	3	0	0	1	0	0
Mount Poso	0	2	1	875	100	1	0
Round Mountain	0	1	0	0	23	0	0
Wheeler Ridge	0	0	0	0	84	0	0
Group No. 2—							
Capitan	0	0	0	0	2	0	0
Elwood	1	3	0	0	39	0	0
Rincon	0	0	0	0	35	0	0
San Miguelito	0	2	0	0	2	0	0
Santa Barbara	2	1	1	60	11	0	0
Santa Maria	0	0	0	0	159	0	0
Summerland	0	0	0	0	63	0	0
Ventura Avenue	0	6	1	1,164	151	0	0
Ventura-Newhall	1	7	1	25	441	1	0
Watsonville	0	0	0	0	7	0	0
Group No. 3—							
Coyote	0	2	0	0	39	0	0
Dominguez	1	4	1	1,977	60	1	0
Fullerton	0	0	0	0	358	0	0
Huntington Beach	4	10	1	780	375	0	3
Inglewood	0	1	0	0	216	0	0
Lawndale	0	0	0	0	7	0	0
Long Beach	6	25	3	332	967	1	6
Los Angeles-Salt Lake	0	0	0	0	172	0	2
Montebello	0	1	0	0	157	0	0
Newport	0	0	0	0	0	0	0
Playa Del Rey	1	1	1	50	192	1	8
Potrero	0	0	0	0	12	0	0
Richfield	1	0	0	0	167	0	1
Rosecrans	0	0	0	0	63	0	0
Santa Fe Springs	0	0	0	0	512	0	0
Seal Beach	0	0	0	0	110	0	0
Torrance	0	1	0	0	392	0	2
Whittier	0	0	0	0	138	0	0
Miscellaneous drilling	4	33	0	0	0	0	0
Group No. 4—							
Buttonwillow gas field	0	0	0	0	0	0	0
Dudley Ridge gas field	1	1	0	0	0	0	0
Goleta gas field	0	1	0	0	0	0	0
Total June	27	114	11	5,374	5,949	11	24
Total May	27	103	19	17,405	9,023	14	12
Decrease	0	*11	8	12,031	74	3	*12
Average for year 1932	18	108	15	13,069	8,928	16	14
Average for year 1931	22	207	21	30,370	8,911	20	15
Average for year 1930	80	434	63	48,710	9,632	21	27

*Increase.

Sasakwa Townsite Pool's Second Well Produces 1,045 Bbls. in 2¼ Hours From Dolomite Pay

By JAMES McINTYRE

Production in Oklahoma in the week ending August 19 fell off 44,020 bbls. per day from the average of the week before. The past week's production was 620,586 bbls. a day as against 664,605 bbls., the average of the week before. Oklahoma City dropped from 324,770 bbls. to 270,425 bbls. per day.

The Sasakwa townsite pool in Seminole County, opened last April by the Amerada Petroleum Corp., Stanolind Oil and Gas Co. and Indian Territory Illuminating Oil Co.'s No. 1 Palmer, NW Cor Section 36-6-7 with a 2,550-bbl. well producing from Simpson dolomite and Wilcox sand, has a second well that promises to be a bigger producer than the first.

The north offset to the discovery well, Amerada-Stanolind and I. T. I. O.'s No. 1 Reed, SW cor. Section 25-6-7, got Simpson dolomite at 3,969 feet and at a total depth of 3,973 feet the well produced 1,045 bbls. in 2¼ hours. It was shut down so that tankage can be erected, after which it will be deepened to the Wilcox sand. In the discovery well the dolomite yielded 800 bbls. a day and the Wilcox 1,750 bbls. per day initially. Wilcox sand was found at 4,040-51 feet. This pool is apart from the older Sasakwa pool to the north. The Stanolind Pipe Line Co. has a line in.

Progress is slow on the completion of E. H. Moore and others' test, C SE SE SW Section 29-2-7, Pontotoc County wildcat. It was last reported in Hunton lime at 3,116-3,300 feet, making 11,000,000 feet of gas and would yield the owners from 5 to 10 bbls. of gasoline daily if drips were installed.

The important test of Barney Feagin and others in C SE SW Section 10-21-2, Noble County, is being watched closely. Oswego series was found at 3,608 feet and the well was drilled to 3,765 feet. The crew set 8⅝-inch casing at 3,715 feet and was bailing.

The Samdan Oil Co. completed a 1,170-bbl. well in the Tatums field in Carter County.

Oklahoma Daily Production

Production for the week ending August 19 and preceding week follows:

	Barrels	
	Aug. 19	Aug. 12
Allen	10,980	10,490
Bowlegs	14,310	12,510
Bristow-Slick	11,100	11,100
Burbank	9,900	9,900
Carr City	8,500	8,320
Earlsboro	13,045	11,420
East Earlsboro	30,925	29,665
South Earlsboro	2,085	1,970
Little River	20,770	17,140
East Little River	1,230	1,250
Oklahoma City	270,435	324,770
Seminole City	14,285	13,435
East Seminole	1,960	1,775
Searight	3,280	2,965
Maud	1,590	1,690
Mission	6,090	5,340
Lucien	4,365	5,150
Cushing-Shamrock	13,250	13,260
St. Louis-Pearson	30,360	25,840
Tatums-Sholem-Alechem-Tussey	13,525	16,350
Other pools	149,610	150,275
Total Oklahoma	620,585	664,605

New Olive Pool Extended

J. E. Crosbie, Inc., extended the Layton sand pool in the Olive district, Creek County, 1¼ miles south of a well on the Casey farm, in the SW NW Section 3-17-8. Layton sand was found at 1,362 feet. It was shot and made 100 bbls. initially.

This is the busiest shallow sand field in Oklahoma and wells are drilling, or preparations are being made to start tests, in Townships 17-8 and 18-8. This is an old territory developed in part shortly following the discovery and development of the Cushing Field, but it was left for J. E. Crosbie, Inc., to discover this profitable Layton sand pool, with a test on the Escoe lease in Section 26-18-8.

The Magnolia Petroleum Co. is getting ready to drill on its fee and its No. 1 well is located in the SE cor. NE Section 3-17-8. J. E. Crosbie has made location for No. 1 Staffers, CNL NE Section 10-17-8. Williams and others were drilling below 550 feet in No. 1 Pickett, SE NW NW Section 2-17-8.

Samples & Mann have machine in to start No. 1-A Matey, NW NE Section 14-18-8. W. A. Moore and others have machine in for No. 1 Swingle, NW SE NE Section 16-18-8. J. W. Cree was cleaning out No. 1 Colbert, SW NW NW Section 25-18-8, after shooting with 100 quarts in sand at 2,546-86 feet. A showing of oil and water followed the shot. R. K. Marrs was drilling at 300 feet in No. 1 J. Tiger, NE NW SE Section 26-18-8. F. O. Akin and others were rigging up No. 3 Tiger, NW SE NE Section 34-18-8. Ray State Oil Co. had started drilling No. 1 Crabtree, NE SW Section 34-18-8, and F. L. Marrs was rigged up on No. 3 Tiger, SW NE NE Section 34-18-8.

Freeland and others have machine in to drill No. 1 Nolan, NW NE SE Section 7-17-8, and E. Shamblin and others have made location for No. 1 Kelly, NW SE NW Section 7-17-8.

West of Kiefer, Whittington & Page's No. 2 Webb, NW NE SE Section 26-17-11, was shut down with a showing of gas at 1,733-83 feet. Sherry & Murta's No. 2 Cruel, CNL NW SE Section 36-17-11, is a 60-bbl. well at 2,660-74 feet.

Gilpin and others' No. 1-A Riley, CWL NE NW Section 33-17-12, was abandoned at 2,435 feet. It had Wilcox sand at 2,398-2,435 feet.

Riverland Oil Co.'s No. 1-A Smith, NW SE NE Section 29-15-9, got Wilcox sand at 3,712-13 feet and a hole full of water. It was abandoned.

Swift & Woods have rig up for No. 2 L. M. Bell, NE SE Section 6-18-10.

East of the old Cushing Field, Samples & Mann's No. 1-A Crosslen, NE SW NE Section 3-19-8, got dry sand at 1,600-1,750 feet, and abandoned the hole. The Marbla Oil Co.'s No. 2 Barton, SE NE SW Section 7-19-8, which was dry in the Layton sand at 1,476-1,506 feet, found an oil showing at 1,798 feet. Samples & Mann's No. 1 Foster, in Section 3-19-9, got a hole full of water in Bartlesville sand at 2,160-2,240 feet, but was drilling deeper. Doke & Hughes' No. 1 Boyd, NW SW SE Section 29-19-9, is shut down after finding water in the Bartlesville sand at 2,360-2,400 feet. Johnson Oil & Refining Co. was rigging up No. 3 Davis, CNL SE SE Section 19-19-10.

In the Cushing Field, Comal Oil Co. had a show of oil, gas and water in the Bartlesville sand at 2,300-16 feet in No. 3 Brewer, C W half SW NE Section 8-18-7.

10-Acre Locations in Crescent Area

All chances of drilling up the new Crescent Pool on a one-well-to-40-acres basis has definitely gone by the board. This pool was opened by the Gypsy Oil Co. and Carter Oil Co., with a well in the center of the NE SE Section 28-17-4w, Logan County. The well was completed and shut in. It gauged over 5,700 bbls. of 43 gravity oil in 24 hours from pay at a depth of 6,125-41½ feet. The acreage for miles around is owned by well capitalized oil companies and firms. This week's report on new developments in the area include the following operations: Sinclair Prairie Oil Co.'s No. 1 Short, SW SW NE Section 27-17-4w, drilling at 1,280 feet; Sinclair Prairie Oil Co.'s No. 1 Phillips, NE NE NW Section 28-17-4w, drilling started, but shut down for water; Sinclair Prairie Oil Co.'s No. 1 Shaffer, NE NE SW Section 28-17-4w, also shut down for water after starting operations; Gypsy Oil Co. and Carter Oil Co.'s No. 1 Walker, C NE NE, were drilling below 500 feet, and the same operators' No. 1-A Walker, C NE NE NE Section 33, set 15-inch casing at 158 feet and the crew was waiting for cement to set. With one exception the above wells are all on 10-acre locations.

The closely surrounding acreage to the big well is owned by Gypsy Oil Co. and Carter Oil Co. in partnership, Gypsy Oil Co. alone, Shell Petroleum Corp., Skelly Oil Co., Minnehoma Oil Co., Magnolia Petroleum Co., Ramsey & Kistler, Wentz & Slick estate, Sinclair Prairie Oil Co., Phillips Petroleum Co., Mid-Continent Petroleum Corp., Eason Oil Co., Texas Co., Amerada Petroleum Corp. and Stanolind Oil & Gas Co. in partnership, Continental Oil Co. and Empire Gas & Fuel Co.

Two new locations have been made in the center of 40 acres, one by the Gypsy Oil Co., No. 1 M. Good, S SW NW Section 27-17-4w, a lease recently purchased from the Indian Territory Illuminating Oil Co., and the other by Continental Oil Co., No. 1 McConnell, C SE SE Section

Wildcat Operations in Oklahoma

Northern Oklahoma

ALFALFA COUNTY

Company, farm and location— Remarks:

Acre et al's No. 1 Acre, C SW NE Sec. 14-24-11w.....O.W.D.D.; drlg. 5,660 ft.

BECKHAM COUNTY

Pattee Royalty Co.'s No. 1 Goose Tree, SW SE SW SE Sec. 32-16-23w .....Drlg. 3,455 ft.

CADDO COUNTY

Denver P. & R. Co.'s No. 1 Noe, NW SW SW Sec. 34-10-10w .....S.D. 9,540 ft.

COAL COUNTY

Dodd & Burton's No. 1 Grigsby, NW SE NE Sec. 35-1-5..Shot 5 qts.; 1,000 ft. oil in hole.
Funk & Russell's No. 1 Miller, SE NE Sec. 19-2-8 .....Fishing 2,750 ft.

GARFIELD COUNTY

J. H. Lewis' No. 1 Clark, C NW NW Sec. 34-21-4w .....Cmtd. 15-in. 110 ft.

HUGHES COUNTY

Dixie-Lee Oil Co.'s No. 1 Taylor, C NW Sec. 27-5-10.....Drlg. 350 ft.
Pioneer Pet. Co.'s No. 1 Brock, SE cor. Sec. 26-5-11 .....Spudded in and S.D.
Redwine et al's No. 1 Badger, C N half SW SW Sec. 4-5-11 .....S.D. 330 ft.
Scruggs et al's No. 1 Black, NE Sec. 13-9-10 .....Rig.

KAY COUNTY

Blauner et al's No. 1 Maple, NE NW SE Sec. 20-27-4....Drlg. 1,565 ft.

KIOWA COUNTY

Christian's No. 1 Jones, NE NW Sec. 6-7-18w .....S.D. 1,904 ft.
McWhirter et al's No. 1 Vanderneck, NE NW Sec. 3-7-19w (O.W.D.D.) .....S.D. 2,155 ft.

LINCOLN COUNTY

J. Garfield Bull's No. 1 Smith, NW SE Sec. 26-16-6....Coring 3,190 ft.
Magnolia Pet. Co.'s No. 1 Wagoner, SW SE Sec. 3-14-3 ..T.D. 4,925 ft.; setting csg.

LOGAN COUNTY

Amerada Pet. Corp.'s No. 1 Long, C NW NW SW .....Rig.
Shell Pet. Corp.'s No. 1 Faulkner, C SE NW Sec. 11-18-4w. S.D. 6,706 ft.

MURRAY COUNTY

A. R. Harden's No. 1 Sadler, NE Sec. 19-1-2.....Rig.
T. E. Revells et al's No. 1 Wolfe, NE cor. Sec. 18-1-2...Drlg. 400 ft.

MUSKOGEE COUNTY

J. S. Routt et al's No. 1 Escoe, CWL SE NE Sec. 17-13-17 Drlg. 905 ft.

NOBLE COUNTY

Sinclair Prairie's No. 1 Jerome, SW cor. Sec. 15-20-2w.. T.D. 5,337 ft.; will abd.
Wentz & Feagen's No. 1 Eyler, C SE SW Sec. 10-21-2...Set pipe at 3,715 ft.; T.D. 3,765 ft.

OKLAHOMA COUNTY

Mid-Continental Oil Co.'s No. 1 Edwards, C SE SE Sec. 19-11-1 .....Drlg. 3,270 ft.
H. E. Rapp's No. 1 Price, CEL NE SW Sec. 19-14-3w....Drlg. 4,640 ft.
F. Russell's No. 1 Heapley, SW NW NE Sec. 23-13-3w..Drlg. 5,360 ft.

PAYNE COUNTY

Kemp & Nunneles's No. 1 Crane, SW SE SW Sec. 10-17-6 Fishing for bit 1,485 ft.
O. M. Maines et al's No. 1 Scheldberg, NW SW NW Sec. 27-22-6 .....Wilcox sand 3,114-38 ft; wtr.; S.D.

PITTSBURG COUNTY

Moffett & Hall's No. 1 Jones, C NE NW Sec. 14-8-14 ..Drlg. 2,740 ft.; 4,000,000 ft. gas.

PONTOTOC COUNTY

Gilbert's No. 1 Starritt, NW SE Sec. 32-4-6.....Drlg. 1,213-20 ft; 5,000,000 ft. gas.
Choctaw O. & G. Co.'s No. 1 Thompson, SW NE SW Sec. 1-1-7 .....Fishing for tools; T.D. 1,440 ft.
W. E. McGraw's No. 1 Mayhue, NE Sec. 19-2-6.....Drlg. 1,180 ft.
McGee et al's No. 1 Newborn, SW NE Sec. 31-5-4.....Rig.
Williams' No. 1 Kroth, NE SE Sec. 32-3-4.....H.F.W. 1,977 ft.
Wirrick's No. 1 Lee, SE SW Sec. 29-3-7 .....Drlg. 3,201 ft.
Sledge et al's No. 1 Worley, SW SE SW Sec. 22-3-7w....Drlg. 668 ft.

POTTAWATOMIE COUNTY

Payne Drlg. Co.'s No. 1 Lovelace, NW SW NW Sec. 27-6-4 T.D. 3,750 ft.; csg. collapsed.

SEMINOLE COUNTY

Sinclair Prairie's No. 1 Tierney, SE cor. Sec. 3-11-6.....Drlg. 2,727 ft.
Stewart & Egan's No. 1 Sanderson, NE SW Sec. 27-6-5..Drlg. 3,220 ft.
Flimlee's No. 1 Bowlegs, SE NE SW Sec. 1-7-7 .....S.D. 800 ft.
Armstrong et al's No. 1 Diamond, NE SE SW Sec. 5-6-7..Set 8-in. csg. 3,918 ft.; T.D. 4,044 ft.; H.F.W.

WASHITA COUNTY

McWhirter & Bost's No. 1 Hall, SW SE SE Sec. 28-8-19w.Drlg. 180 ft.

Southern Oklahoma

ATOKA COUNTY

Blake's No. 1 Galbreath, SW NE SE Sec. 5-1-15 .....Drlg. 243 ft.
Malernee et al's No. 1 Cole, NE NW Sec. 19-2s-14.....Drlg. 530 ft.
L. E. Stewart et al's No. 1 Stewart, SE SE Sec. 2-4s-10 .S.D. 1,950 ft.

JEFFERSON COUNTY

Wakefield's No. 1 Kelly, NW SE Sec. 1-1-8w..... Drlg. 550 ft.

STEPHENS COUNTY

Doyle Oil Co.'s No. 1 Cunningham, SE NE NW Sec. 4-1-4w .....Drlg. 2,500 ft.

TILLMAN COUNTY

Emenheiser et al's No. 1 Pace, C SW Sec. 3-4s-17w.....S.D. 3,290 ft.
J. H. Everett's No. 1 Crane, SW cor. Sec. 15-3s-14w.....Rig.
Gypsy Oil Co.'s No. 1 Pitcher, NW Sec. 26-4s-15w.....Drlg. 3,125 ft.

28-17-4w. The Empire Gas and Fuel Co. has laid a 6-inch welded gas line from the Eason Oil Co.'s well in Section 33-17n-4w, which connects with its main line at a point in Section 33-17-4w. The gas will be used as fuel in the Crescent field.

Greater Seminole Field

Donahue and others' No. 1 Taylor, NW SW SW Section 29-10-6, Seminole County, was testing at 3,438 feet, where 3,000,000 feet of gas and a good showing of oil was found, after having drilled to 3,449 feet and plugged back. There was a dose of salt water at 3,449 feet.

Cellar is dug for Carter Oil Co.'s No. 9 Campbell, NW cor. SW Section 20-9-6. Amerada Petroleum Corp.'s No. 1 Chase, C SW NE Section 29-9-6, was dry and abandoned. It had Wilcox sand at 4,195-4,206 feet, and a small showing of oil and salt water.

In the Lima district, Speare Drilling Co.'s No. 1 Hart, NW NE SW Section 18-8-7, had a production of 500 bbls. of cut oil in 24 hours from sand at 3,238-60 feet. The hole was plugged back to 3,253 feet and the crew was waiting for cement to set.

New Production in South St. Louis

Hilton Phillips and others' No. 2 Brister, SE SW SE Section 21-7-4, South St. Louis area, made 300 bbls. initial showing from dolomite, bottomed at 4,-201 feet.

Amerada Petroleum Corp.'s No. 1 Terry, C NE SE Section 32-7-4, was treated with 1,000 gallons of acid at 4,-193-4,202 feet. Later it swabbed 1,344 bbls. of oil and 173 bbls. of water and on the next test 1,185 bbls. of oil and 85 bbls. of water.

Stewart & Clark's No. 1 Banta, SW SE SE Section 21-7-4, got dolomite at 4,169-70 feet, total depth. It swabbed 200 bbls. of oil in two hours, and later 135 bbls. in 12 hours, and was to be put on the pump.

Hall & Briscoe's No. 1 Brown, SW NW Section 33-7-4, was at a total depth of 3,872 feet, and 6-inch casing will be run and the well finished with standard tools.

Mid-Continent Petroleum Corp.'s No. 1 Brandenburg, SW NE Section 33-7-4, pumped 490 bbls. in 24 hours from dolomite at 4,288-90 feet, total depth 4,-297½ feet.

Furman Oil Co. and others have made a location for No. 1 Ward, SE NW Section 33-7-4.

Vaughn and others' No. 1 Lowther, NW NE SW Section 33-7-4, swabbed 165 bbls. in 20 hours from dolomite at 4,097-4,109 feet. The crew was drilling ahead.

In the West Holdenville area, Sunray Oil Co. had cellar dug for No. 3 Jacobs, NE NE NW NW Section 15-7-8. Winona Oil Co. and Jarvis & Holm gave their No. 1 Campbell, 330 feet north and 1,180 feet east of the SW cor. Section 20-7-8, a treatment of 1,000 gallons of acid in dolomite at 4,218-30 feet, but had not yet tested.

Royce and others found a 1,000,000-foot gas production at 1,149-81 feet in their No. 4 Walker, C N half NE SW Section 22-7-8.

Oklahoma City Developments

In the Oklahoma City Field, Phillips Petroleum Co.'s No. 2 Classen, 330 feet north and 782 feet west of the C Section 15-11-3w, set 7-inch pipe at 6,438 feet and was waiting for cement to set. Total depth is 6,443 feet.

The Transit Oil Co.'s No. 1 Fowler, 132 feet south and 225 feet west of the C Section 22-11-3w, flowed 644 bbls. in a two-hour test, with gas at the rate of 25,000,000 feet per day from sand at 6,505-77 feet. No other drilling wells in the field were at interesting depths, and no new operations were reported.

Payne County Tests

Amerada Petroleum Corp. and Stanolind Oil & Gas Co.'s No. 1 Mitchell, C SE NE SW Section 15-18-3, southwest of Mahan, was drilling at 4,586 feet, with salt water in the hole. The well bailed 5 bbls. of water per hour. The same operators have a rig on the ground for a test on the Bryant farm, NW SE SE Section 6-18-5, between the cities of Yale and Cushing. L. G. Hulse is drilling a test for gas in the SW NW SE Section 19-17-3e. The gas is expected to be found at about 1,300 feet.

Okmulgee and Muskogee

Operations in Okmulgee and Muskogee Counties were practically all routine. E. W. Ladd's No. 3 Smith, CNL SE NE Section 14-16-15, Stone Bluff district, Muskogee County, was dry and abandoned at 1,185 feet. Mid-Texas Oil Co.'s No. 1 Cousins, CEL SE SW Section 7-15-12, had an initial gas production of 9,000,000 feet, from sand at 2,-208-56 feet, but it dropped to 1,000,000 feet. The well has been shut in. Hutchinson and others' No. 1-A Moore, CSL N half N half SW Section 14-15-12, had Glenn sand at 1,510-45 feet, shot with 60 quarts, 12 bbls. a day on the pump; Hazlett and others' No. 4 J. Burton, NE cor. SE SE Section 25-14-12, drilling at 600 feet; Colton and Phillips Petroleum Co.'s No. 1 Huckaby, SE NE SW Section 30-14-12, Wilcox sand at 2,815 feet, 1 foot in, made 60 bbls. a day naturally, may deepen; B. L. Wigton's No. 1 5-Acres, NW cor. SW NW NW Section 31-14-13, shot with 50 quarts, 10 bbls., sand depth not ascertained.

Tulsa and Wagoner Counties

Completions, near completions and new operations in Tulsa and Wagoner Counties, include the following: Boyd and others' No. 8 Horn, NE SE NW Section 23-18-14, Broken Arrow district, sand at 1,350-65 feet, swabbed 50 bbls. in 24 hours; J. B. Ash and others' No. 1-A Horn, NE NW Section 24-18-14, spudded in; Helvie & Stout's No. 1 Derrisaw, SE NW NW SE Section 24-18-15, sand at 980-1,002 feet, shot with 40 quarts, 10 bbls.; Gleason and others' No. 1 McHenry, NW SW Section 26-18-15, drilling at 1,100 feet; Marrs' No. 4 Snake, NE NW NW Section 26-18-15, sand at 1,034-53 feet, showed for a 40-bbl. well, but will be shot; Mays Drilling Co.'s No. 1 Lovett, SW SE Section 35-18-15, dry and abandoned at 1,-185 feet; O. M. Ireland's No. 1 Partridge, SE SW NE Section 32-19-11, Sand Springs district, rigging up; H. W. Bowder's No. 2 Hodge, C SE NW Section 5-17-14, Leonard district, sand at 1,502-47 feet, shot with 60 quarts, 30 bbls.; G. E. Cahill's No. 1 Tiger, CNL SE NW Section 2-17-15, Coweta district, sand at 1,065-83 feet, shot with 50 quarts, 50 bbls.; McIntire and others' No. 1 Atkins, NW NE Section 2-17-15, sand at 1,040-52 feet, dry and abandoned; McIntire and others' No. 2 Tiger, CSL NE NW Section 2-17-15, rigging up.

In Osage County

That part of Osage County called the Naval Reserve, which has been the most active area in the county in drilling operations this year, is not staging any sensations. Following the completion of a good sized well in Siliceous lime by Peters Petroleum Corp. and others there have been a number of wells drilled to that formation with no great measure of success. Recently the shallow formations have been explored and oil production developed. Peters Petroleum Corp. and Producers & Refiners Corp.'s No. 3, NE SW NE Section 24-24-7, was shot with 4 quarts of explosive in sand at 720-77 feet and the well made 82 bbls. in 24 hours.

The Bay Oil Co. got a 3-bbl. showing in its No. 1, SE SW Section 25-24-7, in sand at 2,570-80 feet. Mississippi lime was found at 2,598 feet, total depth 2,601 feet. The Lewis Production Co.'s No. 1, NW NE Section 33-24-7, got sand at 2,553-2,600 feet but water broke in at 2,600 feet. The crew was plugging back.

Phillips Petroleum Co. has started drilling No. 1, C SW SW NW Section 11-24-6.

Texas Co.'s No. 1, SE NW Section 12-23-7, found Cleveland sand at 1,600-13 feet and the well flowed 110 bbls. naturally in 24 hours.

E. O. Plattner has made location for No. 10, in the NE SW NE Section 30-22-9. Oklahoma P. & W. Co. has a machine in for No. 136, a gas test, in NW SE Section 21-21-9. Norbla Oil Co.'s No. 1, NE NW Section 1-20-11, found a dry sand at 1,903-17 feet. The crew was fishing for tools.

Noble County

The Barnsdall Oil Corp.'s No. 2-A Walterman, NW SW NW Section 33-21-1w, Perry district, Noble County, which was drilled to a total depth of 5,410 feet, was plugged back to a gas sand at 3,425-50 feet and the well started with a production of 5,750,000 feet of gas, with 1,300 pounds rock pressure.

In the Lucien area, the Sinclair Prairie Oil Co.'s No. 1 Jerome, SW cor. Section 15-20-2w, was definitely abandoned as dry at 5,337 feet. Stanolind Oil & Gas Co. and Continental Oil Co.'s No. 1 Boley, C SW NW Section 16-20-2w, total depth 5,262 feet, was plugged back to 5,250 feet, where there was a show of oil in the Wilcox sand. Shell Petroleum Corp.'s No. 1 Schoenwald, C NW NE Section 20-20-2w, drilled out cement plug and bailed 6 bailers of water in 16 hours, with a showing of oil and gas. The well will be standardized and drilled deeper.

Gilbert and others' No. 1 Starrett, NW SE Section 18-4-6, Pontotoc County, is a 14,000,000-foot gasser from sand at 1,313-21 feet. It is shut in.

Westheimer & Daube's No. 1 Hammett, NE NW Section 12-4-7, Pontotoc County, was dry and abandoned. It had a barren sand at 2,048-2,110 feet.

George L. Fischer's test, on the Munson farm, SE NE NW Section 30-2-9w, Cotton County, found sand at 1,882-92 feet. The crew was waiting for cement to set.

Paul R. Robb has made location for No. 1 Vithloe, C NE SE Section 11-5s-4e, Marshall County.

Samedan Oil Co.'s No. 3 Hopson, SW SE NE Section 25-1s-3w, in the Tatums Pool in Carter County, swabbed and flowed 1,170 bbls. in 24 hours from a sand series at 2,461-2,632 feet.

IMPORTANT BOOKS
for the Oil Man's Library

"INCREASING THE RECOVERY OF PETROLEUM"

Every producer of oil should be interested in methods of increasing his production. This interest should extend from the lease man to the owner, and include engineers and employes in the general and field offices. A good general knowledge of production methods will never come amiss to anyone with interests in the oil industry. It permits one to have an understanding of terms used, and to visualize to some extent the operating conditions described in literature.

With all that has been written about the apparent overproduction of oil it might seem quite unnecessary to give any serious consideration to methods of increasing production. There is a distinct difference, however, between increasing the yield of a property and producing oil in excess of market demand. The total supply of petroleum in this country is, of necessity, limited, and, whether the individual holds to the opinion that this supply is great or small, when considered in the light of requirements for the future of this country it certainly is not excessive.

It therefore is quite essential that the modern methods be applied to recovery of oil and conservation of gas. The natural energy within any pool is never excessive, and a large part of it may be dissipated without doing effective work if care is not exercised in applying approved production practice.

Lieutenant Osgood has gathered together in the two volumes of his book much valuable data on all phases of production problems. He has described existing conditions and then outlined methods that may be applied to secure increased production. This increased production may not be recovered for some time, but in order that the underground reservoirs may yield their maximum amount of recoverable oil it is frequently necessary that approved methods be applied early in the life of the field.

The books deal largely with the use of air-gas lift. They are quite complete on this phase of production methods, but also include data upon other production methods, and methods for repressuring oil reservoirs.

The two volumes contain a total of 835 pages, and are well illustrated with diagrams, charts, graphs and pictures. Many tables are also included, and references made to special articles upon the various subjects covered.

"Increasing the Recovery of Petroleum," in two volumes, may be purchased through the Book Department of The Oil and Gas Journal at the regular postpaid price of $10. Check or money order for this sum must be received before the books can be mailed.

Natural Gasoline Slowly Regaining Its Importance

(Continued from Page 36)

each year since 1918. The percentages are based upon the quantity of crude oil refined as shown in the accompanying table.

The maximum yield of total gasoline, including natural gasoline, occurred in 1931 when a volume of motor fuel was produced equivalent to 48.2 per cent of the crude run. This has declined to 47.1 per cent in the first half of 1933.

The relative importance of natural gasoline as a source of motor fuel started to decline in 1930 at which time natural gasoline represented 4.7 per cent of the total motor fuel produced. In 1932 natural gasoline represented only 3.2 per cent of the total motor fuel production and in the first six months of 1933 increased to represent 3.6 per cent of the total.

Obviously, a relatively small change in the respective percentages could alter the above statements, but it is evident that a considerable time is required to bring about a change in operations great enough to alter the percentage relationship greatly and trends seem to be predictable at least six months in advance.

CLINTON, MO., RATE CUT

JEFFERSON CITY, Mo., Aug. 21.—The state public service commission has authorized the Missouri Public Service Co., at Warrensburg, to put into effect September 1 a reduced schedule of gas rates for Clinton. It was estimated the new schedule would save consumers $2,000 a year.

Allowable Is Reduced in Hollow Pool, Harvey County, Kansas; Potential Production Rises

By JAMES McINTYRE

State Umpire Cooper, representing the Kansas corporation commission, has reduced the allowable of Hollow Pool wells by 50 bbls. per day starting August 17. The new allowable is 250 bbls. per well per day. New wells, successful deeper drilling of wells previousy producing from upper sands, and the generous use of acid, have all contributed to add to the potential production of this Harvey County pool. There are nearly half a hundred operations in that general area, including those just over the line in McPherson County and Reno County and it is the busiest field in the state. The production last week was cut to 13,505 bbls. per day. The week before the wells produced 14,695 bbls. per day.

Crude oil production in Kansas fell off a little in the week ending August 19. The average daily output was 128,925 bbls. while in the previous week it was 130,100 bbls.

The Chase Townsite Pool in Rice County reports good new wells in the past week, but the Hollow Pool furnished the most of the large producers in the state.

Kansas Daily Production

Production for the week ending August 19 and for the preceding week, follows:

Pool—	Barrels Aug. 19	Barrels Aug. 12
Hollow	13,505	14,695
Ritz-Canton	22,516	22,350
Voshell	6,458	6,990
Sedgwick County	9,672	9,860
Mabee (Nikkel)	8,460	8,445
Ellsworth County	3,303	3,287
Barton	410	336
Rice County	5,417	6,002
Reno County	1,792	1,829
Greenwood County	11,100	11,200
Butler County	16,475	16,590
Other Pools	27,817	28,415
Total Kansas	128,925	130,100

90 Bbls. Per Hour

In the Chase Townsite Field, in Rice County, E. F. Jones and others were rigging up No. 2 Rose, NW NE SE SE, Section 31-19-9w, and have made a location for No. 1 Santa Fe, SE NE SE, Section 31-19-9w. Ramsey and others were at a total depth of 3,227 feet in No. 1 Hedges, NE SE (Block 4), Section 31-19-9w. The well swabbed 90 bbls. an hour. Five-inch liner was set at 3,216 feet in Siliceous lime.

Robertson and Hinkle's No. 1 Cemetery, SE cor., Section 31-19-9w, is estimated as an 800-bbl. well. Six-inch pipe was set in Siliceous lime at 3,212 feet and the well was drilled to 3,222 feet. It will be acidized.

Rigs are up for Ramsey and others' No. 1 Gypsy Community, 490 feet south and 300 feet east of the NW cor. SW, Section 32-19-9w, and same operators' No. 1 Robinson Estate, 880 feet south and 525 feet east of the NW cor. SW, Section 31-19-9w.

Keys Petroleum Co. has made location for No. 1 Whittell, NW cor. NE, Section 29-19-9w, Rice County.

Derby Oil & Refining Co. and Sinclair Prairie Oil Co.'s No. 3 Lacquemont, SW SE, Section 20-19-9w, made 100 bbls. of oil and 90 bbls. of water from Viola lime at 3,409-18 feet. It was then treated with 1,000 gallons of acid but not yet tested.

Phillips Petroleum Co. and Twin Drilling Co.'s No. 3 Miller, C W half SE NE, Section 3-21-6w, had a hole full of water at 2,620 feet. Eight-inch casing was set at 2,724 feet.

Sinclair Prairie Oil Co. has a rig up for No. 1 Specht, NE SE, Section 20-20-10w.

In Barton County the Atlantic Oil Producing Co. has a rig up for No. 1 Schneider. Stanolind Oil & Gas Co.'s No. 1 Gerlof, C SE SW, Section 9-20-11w, was treated with 800 gallons of acid at 3,325-30 feet. The well pumped 168 bbls. in 14 hours. Stanolind Oil & Gas Co.'s No. 1 Hauser, C NW NE, Section 16-20-11w, made 925 bbls. in 21 hours from Siliceous lime at 3,286-3,312 feet.

In Reno County Olson and the Shell Petroleum Corp.'s No. 1 Querfield, C SW SE, Section 27-23-4w, had a showing of oil and water at 3,351 feet and a hole full of water at 3,495 feet. Drilling was continued.

Good Wells in Harvey County

In the Hollow area in Harvey County, Lario Oil & Gas Co. and others were rigging up standard tools to complete No. 1 Wall, NE SE SW, Section 4-22-3w. Hunton lime was found at 3,540-41 feet with a small showing of water.

Shell Petroleum Corp.'s No. 1 Nikkel, NW SE SW, Section 8-22-3w, which was drilled deeper from 3,208 feet to 3,228 feet and which flowed 345 bbls. in six hours, was drilled to 3,252 feet with no increase in oil production but with 16,000,000 feet of gas. It was shut in. Same company's No. 3 Nikkel, SE SW SW, Section 8-22-3w, was treated to 1,000 gallons of acid at 3,445-50 feet. Later it pumped 252 bbls. in 24 hours. This well had the top of the Viola lime at 3,385 feet, Simpson at 3,576 feet, Wilcox sand at 3,576 feet and total depth was 3,581 feet.

The Texas Co.'s No. 2 Andrees, NE NW SW, Section 8-22-3w, had chat at 3,156 feet, set 8-inch pipe at 3,163 feet, drilled to 3,193 feet. It flowed 455 bbls. in three hours with gas production at the rate of 12,000,000 feet per day.

Derby Oil & Refining Co.'s No. 3 Schmidt, SE NW NW, Section 17-22-3w, swabbed 768 bbls. in 24 hours. The well had Viola lime at 3,544-65 feet, Wilcox sand at 3,566-81 feet, total depth. This well is a completion.

Hollow and others' No. 2 Schmidt, NW NE NW, Section 17-22-3w, after having been acidized, swabbed 16 bbls. per hour. It was acidized a second time but had not yet been tested again.

Skelly Oil Co. and Selby Oil & Gas Co.'s No. 3 Schmidt, SW NW NW, Section 17-22-3w, swabbed 34 bbls. per hour for 16 hours. Viola lime was found at 3,535 feet, 6-inch pipe was set at 3,538 feet; Simpson sand was topped at 3,552 feet and Wilcox at 3,553 feet, total depth 3,569 feet. Same operators' No. 4 Schmidt, NW SW NE, Section 17, had Hunton lime at 3,418-26 feet and standard tools were being rigged up.

Sinclair Prairie Oil Co.'s No. 3 Neufeldt, SE NE NE, Section 18-22-3w, had 30,000,000 feet of gas at 3,174 feet and 55,000,000 feet at 3,187 feet. The gas was being killed and drilling will be continued.

Mid-Kansas Oil & Gas Co.'s No. 1 Ediger, SE NW, Section 19-22-3w, was drilling at 3,610 feet with a hole full of water coming from 3,589-90 feet. The top of the Wilcox sand was found at 3,575 feet.

In McPherson County

In McPherson County, Mabee and Shell Petroleum Corp. had rig on the ground for No. 1 Friesen, NW SW SE, Section 33-21-3w.

Mid-Kansas Oil & Gas Co. has rig up for No. 1 Chindberg, NW NE SE, Section 13-19-3w.

McPherson Oil & Gas Co. and others' No. 3 Fleming, C NE NW, Section 11-19-2w, was good for 300 bbls. of oil and 9,000,000 feet of gas at a total depth of 2,948 feet. Chat was topped at 2,923 feet and 8-inch pipe was set at 2,925 feet and the hole drilled to 2,948 feet. Harris & Haun's No. 1-A Sellars, C SW NW, Section 19-10-1w, was given a treatment with 1,000 gallons of acid in Viola lime at 3,407-17 feet. Later it pumped 140 bbls. of oil and 200 bbls. of water.

Miscellaneous Operations

In Kingman County, D. R. Lauck and others have a hole full of water at 2,900-05 feet in No. 1 Church. The crew was underreaming 10-inch pipe. Total depth is 2,913 feet.

Wolf Creek Oil Co. shot its No. 1 Kaub, SE NE, Section 15-25-13, Greenwood County, with 120 quarts of explosive and the well made 100 bbls. in the next 24 hours.

Fields and others have machine in to start No. 1 Weidee, NE SE SW, Section 17-25-14, Woodson County.

Ward & McGinnis' No. 1-A Beal in Section 32-23-11, Greenwood County, drilled to 1,965 feet and shot with 60 quarts at 1,895-1,913 feet and with 40 quarts at 1,939-46 feet and the crew was cleaning out.

Bailey and others have machine in to start No. 1-A Elrod, SE NE NW, Section 7-22-12.

Wright & Bailey's No. 1-A Swanson, SE NE SE, Section 9-22-12, got sand at 1,780-1,800 feet and a hole full of water. The well was shut down awaiting casing.

Deal's No. 1 Thompkins, SW cor., Section 26-33-1e, Sumner County, got the base of the Mississippi lime at 3,954 feet and was drilling at 3,972 feet. The hole filled with water at 3,920 feet.

Hunt and Barker's No. 1 Denton, NW NE NW, Section 10-31-8e, Cowley County, was cleaning out to drill deeper. Old total depth was 2,669 feet.

Clay Petroleum Co.'s No. 1 Jackson, C SW SW, Section 22-29-9, Elk County, got Mississippi lime at 2,300-22 feet. The lime was given a treatment with 1,000 gallons of acid. Later it pumped 20 bbls. of oil and 20 bbls. of water in 24 hours.

In northwestern Kansas Moody & Seagraves have abandoned a test in NW cor., Section 24-2-22w, Norton County at 1,540 feet. It was started as a Siliceous lime test.

Flynn and others have started drilling No. 1 Eitel, C SE, Section 10-18-16w, Rush County.

Wildcat Operations in Kansas

(Descriptions are East unless marked otherwise)

Company, farm and location—	Remarks:
BARTON COUNTY	
Atlantic O. P. Co.'s No. 1 Schneider, C NE SW	Rig.
Heimerich & Payne's No. 1 Everhigh, C SW SE Sec. 13-18-12w	Set 20-in. 85 ft.; drlg. 470 ft.
Rankin et al's No. 1 Sooeg, C SW NE Sec. 14-18-12w	H.F.W. 3,538 ft.; T.D. 3,582 ft.; abd.
Skelton et al's No. 1 Ott, C SE SE Sec. 16-19-14w	O.W.D.D.; T.D. 3,607 ft.; C.O.
BUTLER COUNTY	
Hartman et al's No. 1 McCann, SE SW NW Sec. 7-25-3	S.O. 2,785 ft.
Marylyn Oil Co.'s No. 1 Harsh, NE SW Sec. 34-23-8	Drlg. 2,500 ft.
COWLEY COUNTY	
E. Yarnell's No. 1 Speer, SE NE NE Sec. 31-33-6	S.D. 1,400 ft.
GEARY COUNTY	
Ledauris' No. 1 Fechner, C SE NE Sec. 27-12-8	S.D. 967 ft.
GRAHAM COUNTY	
Schleimeyer et al's No. 1 Smith, SE Sec. 24-8-25w	S.D. 4,180 ft.
HARVEY COUNTY	
Holbert Oil Co.'s No. 1 Harder, SE SW SE Sec. 11-23-1e	Rig.
L. H. Wents' No. 1 Beatvater, SW SE SW Sec. 3-22-1e	Drlg. 1,278 ft.
KINGMAN COUNTY	
D. R. Lauck et al's No. 1 Church, SE SW NE Sec. 10-28-6w	U.R. 10-in.; T.D. 2,913 ft.
MARION COUNTY	
Hutchinson Oil & Gas Co.'s No. 1 Miller, NW cor. Sec. 6-17-3	S.D. 2,700 ft.
McPHERSON COUNTY	
Sever and Hessman's No. 1 Scrag, S½ SE Sec. 32-19-4w	Rig on ground.
Gaume & Maxwell's No. 1 Goering, NE SE SW Sec. 24-22-3w	Rig.
Investers Mineral Dev. Co.'s No. 1 Kaufman, SE Sec. 25-21-3w	Rig.
Roth & Faurot's No. 1 Swanson, NE SW NE Sec. 13-19-3w	Rig.
NORTON COUNTY	
Jim Madison's No. 1 Boecker, SE NW Sec. 29-2-1w	Rig.
Moody Seagraves' No. 1, NW Sec. 24-2-22w	Drlg. 1,150 ft.
Paramount Oil Co.'s No. 1 Steinkirchner, NE SE SE Sec. 25-19-1w	Rig.
PRATT COUNTY	
Minnescah O. & G. Co.'s No. 1 Hardesty, SW SE SE Sec. 28-27-11w	H.F.W. 4,417-27 ft.; pulled 5-in. pipe and P.B. to 3,640 ft.
RENO COUNTY	
Mylius et al's No. 1 Patton, SE NE Sec. 35-23-5w	Spudded in.
Roth & Faurot's No. 1 Yoder, C NW NW Sec. 15-24-5w	R.U.S.T.
RICE COUNTY	
Garden et al's No. 1 Thodel, C NW NW Sec. 11-21-7w	T.D. 3,270 ft.; U.R. 8-in.
Langston et al's No. 1 Wells, NE SE Sec. 4-20-9w	T.D. 3,293 ft.; H.F.W.; abd.
ROOKS COUNTY	
Kruger's No. 1 Rathburn, SE NW SW Sec. 14-9-16w	Rig.
SUMNER COUNTY	
Deal O. & G. Co.'s No. 1 Tompkins, SW cor. Sec. 26-33-1.	Drlg. 3,972 ft.
WOODSON COUNTY	
F. Fiske's No. 1 Munson, SW NE SW Sec. 9-25-14	S.D. 700 ft.

NEW WELLS IN HEBRON FIELD

COUDERSPORT, Pa., Aug. 19.—Potter County gas field's production was boosted 21,700,000 feet when two new gas wells were brought in along the Hebron Dome.

Sylvania Gas Co.'s No. 1 Nancy Wilcox, Hebron Township, was drilled in Friday with a flow of 14,000,000 feet per day. This well had the Tully lime at 4,512 feet, and the Onondaga at 5,092 feet. Top of the sand was 5,198 feet. The other well, Electro-Geometer Corp.'s No. 1 George Estes, Genessee Township, extends the field 5 miles to the northeast. Its total production was reached Saturday with a flow of 7,200,000 feet. The well was drilled by Richard Atwater, and is the first producer in Genessee Township. It is 1,900 feet from the W. L. Gale dry hole drilled by Hammondsport Natural Gas. The Estes well had the Tully lime at 4,505 feet, the Onondaga at 5,167 feet, and the Oriskany at 5,198 feet.

Greta Area and Southwestern Wharton County Holding Attention of Gulf Coast Operators

By NEIL WILLIAMS
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Aug. 21.—The Greta district of Refugio County in the lower Gulf Coast country and southwestern Wharton County are the areas most in the spotlight on the Gulf Coast at the close of the week. However, there was no abatement in interest or activity in the general wildcatting and development. Important developments now are expected in Tomball, Livingston and other scattered spots where wildcats or extension tests are nearing expected pay horizons. Including old wells drilling deeper, new tests started and shut down holes resuming operations, approximately 50 additional operations were shown in Gulf Coast field reports the past week. Production reflected further increases due largely to the mounting daily output of the Conroe and Greta fields.

Conceding Greta as the most important area on the Gulf Coast at this time from a new development standpoint southwestern Wharton County is holding the greatest amount of interest in wildcat drilling activity. For wildcat territory, this area is setting another precedent for the Gulf Coast in that 10 wildcats are being drilled simultaneously within an area of a comparatively few miles.

Pure Oil Co. is moving in its seventh rig on its Louise block in the extreme western part of the county while on the same block Smith & McDannald is moving in an eighth rig for a joint test. When the prospect was blocked in 1928 following geophysical exploration, lease obligations called for the drilling of 15 tests. Recently these obligations were reduced to seven to hold the property but these now are required to drill.

Tested Salt Water

Pure Oil Co.'s No. 1 Kuntze, Section 27, second test drilling on the Louise block, proved a little disappointing when it tested salt water the past week in sand at 6,005-21 feet. This well is located approximately a mile to the southeast of the first test started, No. 1 Stewart, Section 25, which had sand at 5,963-71 feet, which on drill stem test recovered 17 fourbles of 38 gravity oil. While it has been conceded the latter well could have made a commercial producer, it now is drilling deeper as an exploratory test. At latest report it was drilling sidetracked hole at 6,671 feet. It has been taken to a total depth of 8,015 feet but there it ran into heaving shale which hung up the drill stem.

New operations being started up by this company on this block include No. 1 Lancaster, Section 23, northwest of the Stewart well; No. 1 Garrett and No. 1 Wilder, both located to the south in Section 28, and No. 1 Weaver, Section 22, to the south. The test to be drilled by Smith & McDannald is approximately two miles south of these tests in the Yeaman's Survey, Abstract 913.

Nabors and associates are preparing to resume drilling in the Lurker wildcat on the Leech block just east of Pure's Louise block. This test, located in Section 58, was drilled by Steed Production Co. to a total depth of 5,026 feet and abandoned last February. Nabors and associates recently made a deal with Cockburn Oil Corp., which held the acreage, to carry the hole on down. Boggs & Hammand are to drill another wildcat in that area. Smith & McDannald and Shell Petroleum Corp.'s No. 1 Ridgeway, Section 8, H. & T. C. Survey, on Shell's Lake View prospect is drilling around 6,790 feet but does not look so favorable.

There are about a half dozen different geophysical prospects in that part of Wharton County and around these there has been going on as a result of the drilling activity a leasing and royalty play comparable in many ways to those which have taken place around Tomball and Huffsmith and other "hot areas" in the past year.

Greta Field Important

The Greta Field in Refugio County in the lower Gulf Coast territory is increasing rapidly in importance. Production pinched in climbed to a high of 9,800 bbls. in one day the past week, although since then operators have voluntarily curtailed their production to an output of 7,705 bbls. in the 24 hours ending at 7 a.m. August 19. If the field had reached 10,000 bbls. daily, it would have been subject to production restriction by the railroad commission. Daily gauges of the production of the field since August 12 follow:

Date—	Bbls.	Wells
August 13	7,901	8
August 14	7,753	8
August 15	8,718	8
August 16	9,800	8
August 17	8,745	8
August 18	8,106	8
August 19	7,705	9

These gauges of daily production indicate voluntary curtailment and not natural decline in production, as wells have been showing an increase in their production since initial tests. It has been estimated that present wells in the Greta Field could make 20,000 bbls. daily if permitted.

Seven new operations were reported during the week. Two of these locations were by the Texas Co., the first for that company. They are 2 miles north of the nearest production and will be watched with interest. If these locations make commercial wells they will extend the producing area of the field to more than 4 miles in a north and south direction. The United Production Co.'s No. 6 Fox estate, is another interesting location to the west of production towards the Fox Pool which is located about 4 miles to the south and west.

$1,000,000 Sale

The Atlantic Oil Producing Co. completed its negotiations for the purchase of the holdings of G. E. Smith in the Greta Field for the reported consideration of $1,000,000 of which $300,000 was cash and the balance in oil payments. G. E. Smith and O. R. Seagraves controlled the Greta Oil Corp. each owning a half interest in the discovery well in the field. O. R. Seagraves retains his interest in the Greta Oil Corp.

In the Greta Field for the week ending August 19, there are 22 active operations besides 9 completed wells. Two of the drilling wells are still blowing wild from a shallow gas sand found at approximately 2,100 feet. The most recent well to be completed was the Heyser and Heard's No. 1 J. M. O'Brien, in the E. H. Winfield Survey, which made 735 bbls. of pipe line oil through a one-quarter and one-eighth inch choke from a total depth of 4,405 feet in the Greta sand. The completion of this well extended production one location to the east in the northern part of the field. The pay horizon was found to be regular with the other wells that have been completed.

To the east of the Heyser and Heard's well about a half mile Edwin M. Jones' No. 1 J. M. O'Brien was drilled to a total depth of 4,404 feet in pay sand and was showing oil and gas. No gauge had been taken of the well up to the time this was written. The completion of this well will make a half mile extension to the east and north from the nearest other production.

Smith and Floboots' No. 1 J. M. O'Brien was showing for a well in the Greta pay sand topped at 4,365 feet. It is located about a half mile east from the discovery well.

Atkins & O'Neil's No. 1 Welder, James T. McGrew Survey, 2½ miles north of the field, found salt water in sand at 6,450 feet and has been abandoned. This well also found salt water in the Greta pay and provided a limit for the field in that direction.

Colorado County

Humble Oil & Refining Co. and Coyle-Concord Oil Co. have made location on their Garwood block in southern Colorado County for No. 2 Powell, which is 300 feet southeast of Plymouth Oil Co.'s No. 1 Ream and thence 650 feet northeast at right angles. The latter well, it will be remembered, produced some oil for a time and then went to water while in 31 feet of sand at a total depth of 6,203 feet. It later was deepened and abandoned.

The new Humble and Coyle-Concord well is being located east of the Plymouth well on the strength of findings in the same operators' No. 1 Powell, 1,300 feet northwest of the Plymouth well, and which found salt water in the 6,200-foot sand and unless it finds something more encouraging before reaching 6,500 feet probably will be abandoned. At latest report it was drilling at 6,435 feet.

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Gulf Coast Fields and Wildcats

Week Ending August 19

Company, farm and location—	Remarks
DAMON MOUND—BRAZORIA COUNTY	
Intercoastal Oil Co.'s No. 11 Wisdom, 350 ft. E of No. 6, Blk. 51, Lot D, A. Durst Sur.	Drlg. shale 1,725 ft.
Sinclair Prairie Oil Co.'s No. 31-A Bryan, 155 ft. N, 45 deg. E of SW cor. of Blk. 28, Masterson Subd., and 140 ft. S, 45 deg. E, A. Darst Sur.	T.D. 7,586 ft.; no report.
MANVEL—BRAZORIA COUNTY	
Texas Co.'s No. 1 Belcher (W.O.), 157 ft. SE of NW line and 223 ft. NE of SW line of Lot 18, Blk. A, Suburban Gardens Subd, H. N. Little Sur.	T.D. 5,527 ft.; cmtd. 9⅝-in. csg. 5,463 ft.
Texas Co.'s No. 6 Belcher, H. N. Little Sur., South 42° W 2,400 ft. and S 48° E 400 ft. from N cor. lease	Drlg. shale 2,550 ft.
The Texas Co.'s No. 2 Davis, 300 ft. out of S cor. Lot 42, H. N. Little Sur.	T.D. 5,812 ft.; cmtd. back to 3,790 ft. to test shallow sand.
BARBERS HILL—CHAMBERS COUNTY	
Mills Bennett Prod. Co.'s No. 4-A Barber (W.O.), Henry Griffith League	T.D. 5,143 ft.; cutting and pulling screen.
Mills Bennett Prod. Co.'s No. 1-C Barber, Henry Griffith League, 100 ft. E, 30 ft. N of SW cor. of tract.	Drlg. hard sand 3,887 ft.
Mills Bennett Prod. Co.'s No. 3-C Kirby (W.O.)	T.D. 4,988 ft.; C.O.
Mills Bennett Prod. Co.'s No. 5 Kirby (W.O.), Henry Griffith League, 400 ft. from W line, 41 ft. from S line of tract	Drlg. shale 4,659 ft.
Mills Bennett Prod. Co.'s No. 2-B Gulf fee, Wm. Bloodgood Sur., 1,240 ft. N along N line, 300 ft. E at right angles to W line	Rigging.
McAlbert Oil Co.'s No. 5 Wilburn (W.O.), Henry Griffith League	Drlg. shale 5,017 ft.
Sinclair Prairie Oil Co.'s No. 8 Wilburn (W.O.), Henry Griffith League	T.D. 5,271 ft.; swbd. 100 bbls. fluid, 65% wtr.; to D.D.
Sinclair Prairie Oil Co.'s No. 15 Wilburn, Henry Griffith League, 150 ft. W of No. 14	Derrick.
Sun Oil Co.'s No. 11 J. Wilburn (W.O.), Wm. Hodges Sur.	Drlg. shale and sand 4,475 ft.
Sun Oil Co.'s No. 12 Wilburn (W.O.), Wm. Hodges Sur.	T.D. 5,127 ft.; P.B. to 4,653 ft.; to sidetrack.
Sun Oil Co.'s No. 17 Wilburn, Henry Griffith League, 150 ft. W of No. 6 and 50 ft. S of N line	Derrick.
Texas Co.'s No. 7 Wilburn (W.O.), Henry Griffith League	Pulling screen and liner; T.D. 4,422 ft.
Texas Gulf Prod. Co.'s No. 11-B Kirby, Henry Griffith League, 411 ft. from S line, 473 ft. from W line of tract	Cored sand 3,944-4,073 ft.
Yount Lee Oil Co.'s No. 21 Chambers County (W.O.), Wm. Bloodgood Sur.	Drlg. hard sand and lime 2,400 ft.
Yount Lee Oil Co.'s No. 23 Chambers County, Wm. Bloodgood Sur., 300 ft. from W line, 262½ ft. from N line of lease	Drlg. salt 3,375 ft.
LOST LAKE—CHAMBERS COUNTY	
Pure Oil Co.'s No. 18 Mayes, E. H. R. Wallis Sur., 205 ft. N and 425 ft. W of No. 1 Lost River	Abd. in cap rock 3,633-70 ft.
RABBS RIDGE—FORT BEND COUNTY	
Gulf Prod. Co.'s No. 5-A Gubbels, Samuel Kennedy Sur., 492 ft. from W line, 1,460 ft. from S line	Drlg. shale 4,422 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 18-A F. I. Booth, J. Rabb Sur.	Drlg. shale 2,820 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 10 T. R. Booth, J. Rabb Sur.	Drlg. shale 5,291 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 14-A Lockwood, J. Rabb Sur., 150 ft. due E of No. 14	Drlg. shale 4,058 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 21-A Lockwood & Sharp, J. Rabb Sur., 696 ft. N of No. 20	Drlg. shale 3,475 ft.
Humble O. & R. Co. and Gulf Prod. Co.'s No. 12-B Lockwood & Sharp, J. Rabb Sur., 1,739 ft. from E line, 1,122 ft. from S line of "B" lease	Drlg. sand 5,220 ft.
Texas Co.'s No. 1 Sherman McCall, Samuel Kennedy Sur., 300 ft. N, 132 ft. W of SE cor. lease	Rigging up.
Wes-Lee Oil Co.'s No. 1 Maya, Samuel Kennedy Sur., 228 ft. from E line, 200 ft. from S line of 14-ac. tract	Sand 5,318-98 ft.; cmtd. 7-in. csg.

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Notwithstanding One Failure, United Gas to Drill Another Deep Test in Claiborne Parish, La.

By D. H. BANCROFT
Staff Correspondent, Louisiana-Arkansas

SHREVEPORT, La., Aug. 21.—Notwithstanding the failure of the first, United Gas Public Service Co. is preparing to drill another deep hole in the vicinity of Lisbon, Claiborne Parish, Louisiana, to go 6,000-7,000 feet if necessary. Location will be higher up on the structure and the test is expected to be under way as soon as a few remaining leases desired to complete the new block are signed up. Meanwhile rig is still on location of No. 1 Meadows, Section 13-21-5, which was abandoned at 6,710 feet.

Next to R. L. Gay's No. 2 Long-Bell Lumber Co., Section 10-8-13, Sabine Parish, shut down at 7,154 feet, and Lion Oil Refining Co.'s No. A-9 Hays, Section 4-16-15, Union County, Arkansas, abandoned in rock salt at 7,255 feet, the Meadows test is the deepest ever drilled in this territory so far as footage is concerned, though H. I. Morgan's No. 2 Smith, Section 22-19-11, Bossier Parish, is much deeper structurally. The Meadows failed to get a show of anything but salt water all along the log, but geological information developed by it appears to have warranted the company in making a second attempt at deeper production. There will be much drilling in this territory whenever the industry settles down and the hoped for change in the economic situation in general becomes a fact.

North Louisiana and south Arkansas territory has been so thoroughly punctured by shallow holes during the past 20 years that there seems little chance of any repetition of such pools as Homer, El Dorado, etc. As things stand now there are half a dozen deep holes under way, depth being relative to previous prospects in the particular locality under consideration. Most of them are scheduled for 4,500 to 5,000 feet. There are already two deep gas fields, Sugar Creek in Claiborne Parish, producing from around 4,200 feet, and the Rodessa Field of northwestern Caddo Parish, with production from around 5,000 feet.

Blocking Continues

Blocking still continues, the latest being J. P. Evans' 7,000 acres centering on Section 26-18-9, Webster Parish, 10 miles south of Minden and taking in the S half Township 18, Range 9, and the N half Township 17, Range 8. He is taking it for a 4,000-foot test, but depending upon whether or not the log warrants, he is prepared to go 4,500 feet. Location is approximately 3 miles due west of a well he drilled on another block some time ago which resulted in most of the major companies checkerboarding his holdings, which, it is understood, two or three of them are prepared to do again in the present block.

The week's completions added little to new production of either oil or gas. There were 11 of them, nine failures, a 200-bbl. producer in Zwolle district of Sabine Parish and a gasser in the Jackson district of Mississippi.

Arkansas reported a dry hole in Lafayette County. Completions were: J. T. Anderson abandoned No. 1 Leonard, SW SW Section 19-19-13, 8 miles north of Shreveport, at 2,700 feet. Tests in the Nacatoch and Blossom developed salt water. Pyramid Oil & Gas Co.'s No. 1 P. A. Sharpe, SW SE Section 3-18-16, Blanchard gas district of Caddo Parish, was dry and abandoned at 2,730 feet. George Greer abandoned No. 1-B Louisiana Central Lumber Co., Section 2-9-6, Catahoula Parish. Total depth was 3,016 feet, but after ripping casing and finally shooting it at 912 feet it was plugged and abandoned after a blowout. The same interests have taken 6,000 acres to the north of the block on which this well and its predecessor, 500 feet east, also blew out and was lost, and will immediately drill another hole 900 feet north of No. 1-B to the base of the Jackson, whence the other two wells have demonstrated the gas is coming.

Arranging for Another Test

G. W. Hindman abandoned No. 1 Long-Bell Lumber Co., NE NW Section 30-3n-2w, Rapides Parish, at 3,794 feet in the Cockfield, coring gummy shale, sandy shale and salt, but is understood to be arranging for another test immediately. The block is in the Conroe-Jackson trend play. G. W. Langley's No. 1 Peavy-Wilson Lumber Co., NE NE Section 16-5-9, a Sabine Parish wildcat, 15 miles southwest of production in the Many section of the Zwolle district, was dry and abandoned in sandy lime at 3,874 feet.

H. C. Maulding's No. 1 DeLatin, SE NE Section 3-7-11, Zwolle, was the week's sole producer. It came in flowing by heads estimated at 200 bbls. per day through casing from 2,370 feet, set tubing and increased to 400 bbls. Pugh-Hickman Drilling Co.'s No. 1 Stille, SE SE Section 16-7-11, Zwolle, was abandoned at 2,445 feet. Southland Drilling Co.'s No. 1 Frost-Johnson Lumber Co., NE NE Section 13-9-11, a wildcat in the northeast corner of Sabine Parish, was abandoned at 4,122 feet after a show of gas on drill stem test at 3,747-3,905 feet, the only showing of any sort obtained all the way down.

In Lafayette County, Arkansas, Paul G. Benedum abandoned No. 1 Hanson, C NW Section 25-19-24, at 3,160 feet after a drill stem test that developed 14 fourbles of salt water in 13 minutes. J. A. Alexander, trustee, completed No. 1 Love Petroleum Co., NW NE Section 1-5-1e, Rankin County, Mississippi, in the Jackson gas field, gauging 37,011,000 feet of gas from 2,377 feet.

Eleven New Operations

Eleven new operations were listed, two in Zwolle; one in Sabine Parish; one in the Ouachita Parish sector of the Monroe gas field; one in Ouachita County, Arkansas; three in the Rankin County side of the Jackson, Miss., gas field, and one each in Newton, Madison and Warren Counties, Mississippi. They were: Inabnet & Pipes' No. 1 Nelson, NW cor. Lot 8, Section 4-18-4, Ouachita Parish, Louisiana. It is understood they will drill five more on the same lease. Pelican Natural Gas Co. is rigging up on No. 24 Louisiana Long Leaf Lumber Co., SW SW Section 5-7-11, Zwolle district, Sabine Parish; H. C. Pitts has derrick up for No. 1 Trammel, NW NE Section 5-7-11, Zwolle; L. J. Hillery's No. 1 Sabine Lumber Co. is a location in the NE cor. LaNana grant, Section 5-7-11, Zwolle. J. D. Reynolds is rigging up on No. 1 Snow Hill Baptist Church, SE SW Section 28-15-15, Smackover district in Ouachita County, Arkansas. The Mississippi locations are: J. A. Baker and others' No. 1 Hawkins, SE SW Section 31-6-2e, Rankin County, derrick; Ferguson, Fuller & Metz' No. 1 Ammons, NW NW Section 35-3n-3r, Rankin County, derrick; J. A. Alexander, trustee's No. 2 Love Petroleum Co., NW SE Section 36-6-1e, Rankin County, rig up; Bob Dalton and others' No. 2 Majurs, rigged up in the SE SE Section 25-6-11, Newton County, 100 feet north of No. 1 Majurs, dry and abandoned; H. A. Wilson and others' No. 1 Copex, SW NE Section 24-9-3e, Madison County, began drilling August 13, drilling 235 feet; Orbet Drilling Co.'s No. 1 R. L. Parker, 300 feet east SWL Section 14-14-1e, Warren County, rigged up.

The NRA is beginning to show its effects in the industry in this section and before the presentation of the oil industry code several of the major and some of the minor companies and independent operators were putting on more men. In the majority of cases these were for field work and in practically every case those added to the pay roll were those who had been let out when things slowed down.

Wildcat Operations in Louisiana-Arkansas

(Rotary operations unless otherwise designated)

North Louisiana

BIENVILLE PARISH

Company, well, farm name, section and block—	Remarks:
Poole & Johnson's No. 1 H. E. Sudduth, 1,170 ft. E and S, C Sec. 28-14-16	Derrick.

BOSSIER PARISH

J. A. King et al's (was A. W. Phillips, tr.'s) No. 1 Oden, 300 ft. W, 150 ft. N, SE cor. NW NW Sec. 4-18-13	S.D. 1,704 ft.
W. D. Ball's Hicks Grocery Co. (was Dr. C. R. Reed, tr.'s) No. 1 C.J.&R., Sec. 18-16-11	Rigging up.
B. A. Sherrell, tr.'s No. 1 fee, NE NW NW Sec. 18-19-11	Coring 2,625 ft.

CADDO—BLANCHARD

Calatex O. & G. Co.'s No. 1 G. M. Agurs, 331 ft. S, 660 ft. W, NE cor. NE NE Sec. 9-16-16	Drlg. lime 2,680 ft.

CADDO PARISH

J. B. Hutchinson, tr.'s No. 1 Story Phillips, 330 ft. N and E, SW cor. SW NE SE Sec. 35-16-15	S.D. fuel 835 ft.
J. T. Humphrey et al's No. 1 Powell, 330 ft. N and E, SW cor. NW SE Section 14-18-15	Rig up.
John F. Kerper's No. 1 Barron, 350 ft. N and W, SE cor. NE SE Sec. 27-16-14	Fishing for junk; T.D. 2,580 ft.
A. D. King, tr.'s No. 1 Roach, 641 ft. E, 275 ft. N, SW cor. SW SW Sec. 4-14-16	Began drlg. Aug. 16.

DESOTO PARISH

Bailey Gantz et al's No. 1 Jenkins, NW cor. SE SW Sec. 35-13-13	Moving in heavy rig; T.D. 3,-696 ft.
J. H. McKenzie's (was P. B. Dyer's) No. 2 B. F. Jenkins, 330 ft. N and E, SW cor. NW SW Sec. 35-15-12	Skidded 15 ft.; cmt. 10-in. 50 ft.
Hirschfield-Bailey Interests' No. 1 Mickle, 660 ft. N and E, SW cor. SE Sec. 7-13-12	Began drlg. Aug. 15; 10-in. 101 ft.; drlg. 310 ft.

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Daily average runs from the field gained 1,170 bbls., Louisiana runs were 26,210 bbls. and Arkansas 31,430 bbls. Runs from the several pools averaged:

NORTH LOUISIANA

	Bbls.
Caddo, light	4,610
Caddo, heavy	1,505
Converse	235
Cotton Valley	470
DeSoto-Red River	1,570
Elm Grove	290
Haynesville	3,700
Holly	190
Homer	2,660
Pleasant Hill	190
Sarepta-Carterville	790
Urania	2,570
Zwolle	7,430
Total	26,210
Last week	26,040
Increase	170

ARKANSAS

Champagnolle	1,330
El Dorado	2,600
Lisbon	385
Miller	50
Nevada	550
Smackover, light	2,550
Smackover, heavy	22,000
Stephens	610
Urbana	1,325
Total	31,430
Last week	31,345
Increase	85

NORTH LOUISIANA

Jensen, Mixon & Gutzler's No. 1 Ledbetter, SW SW Section 6-18-11, 6 miles southwest of Bellevue Field in Bossier Parish, topped chalk at 1,013 feet and was coring. United Gas Public Service Co., deepening another old producer in the Sligo gas district of Bossier, No. 1 Webb, Section 23-17-12, cemented 6-inch at 2,399 feet, cored sandy shale at 2,443 feet and was drilling at 2,462 feet. Arkansas-Louisiana Pipe Line Co.'s No. 1 Williams and Windhare, NE NW Section 4-22-16, Rodessa gas district of Caddo Parish, was coring at 5,363 feet. J. F. Kerper's No. 1 Barron, NE SE Section 27-16-14, Caddo Parish, was fishing for junk, total depth 2,580 feet. A. D. King, trustee's No. 1 Roach, SW SW Section 4-14-16, set 226 feet of surface pipe. United Gas Public Service Co.'s No. 1 Durritt, NE SE Section 31-20-5, Sugar Creek gas district of Claiborne Parish, was shut down for orders at 4,328 feet after testing 5,000,000 feet of gas and probably will make a few feet more hole.

J. H. McKenzie skidded derrick 15 feet on No. 2 B. F. Jenkins, NW SW Section 35-15-12, DeSoto Parish, and set two joints of 10-inch for surface string on second hole. Winters and others' No. 1 Smith, SE SE Section 31-14-15, DeSoto Parish, an old well at Keatchie being deepened from 2,295 feet, tested dry at 2,470 feet and is waiting orders. United Gas Public Service Co. has four wells in the Monroe gas district waiting for gauge after treating with acid, No. 30 Crossett Lumber Co., Section 25-22-4, Morehouse Parish, at 2,216 feet; No. 2 Patton, Section 12-20-4, Morehouse, at 2,212 feet; No. 2 Taylor-Sandidge, Section 12-20-4, Morehouse, at 2,234 feet, and No. 1 fee 132, Section 219-3, Ouachita Parish, at 2,171 feet. To date their experiments with acid in rehabilitating old wells has been successful.

Barbare Well Dry

Nick Barbare's No. 1 Ryals, NW NW Section 27-9-13, a mile southeast of nearest production in the Converse district of Sabine Parish, was dry at 1,991 feet after a shot of acid with 200 feet of oil in the hole failed to improve matters.

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Deep Horizon in the Montebello Field Opens New Geological Possibilities in California

By L. P. STOCKMAN
Staff Correspondent, California Fields

LOS ANGELES, Calif., Aug. 21.—The Universal Consolidated, subsidiary of Richfield Oil Co., is believed to have made a discovery of paramount importance in the Montebello Field of Los Angeles Basin when No. 1 Cruz, a deep test bottomed at 7,110 feet, was swabbed in flowing 1,750 bbls. of 36.6 gravity oil cutting approximately 60 per cent. Besides definitely proving a new deep productive horizon in the Montebello Field, the probability is that the company has added a new chapter to geological possibilities in southern California. The well, located in the extreme eastern end of the Montebello structure, is believed to have been bottomed in middle Puente of Miocene age, and if developments confirm this it will open a new era of deep zone possibilities.

The middle Puente has not heretofore produced oil in southern California, but if these rocks are commercially productive in the Montebello district, similar horizons should also be found productive in other Los Angeles Basin fields. The top of the Miocene was logged in No. 1 Cruz at 5,850 feet and drilling operations were suspended a few months ago at 6,310 feet, due to the barren condition of the upper member of the Miocene. Work was resumed and the hole carried to its present depth, 7,110 feet. The middle member of the Puente should be encountered in other Los Angeles Basin fields at approximately 11,000 feet and while drilling to this depth appears rather remote at present, improved equipment should bring this depth within reach when the necessity presents itself.

No. 1 Cruz was swabbed in August 17 and while the initial production was all water, the oil content consistently increased until it reached approximately 40 per cent of the total fluid. The well was turned into the tanks at 9 a.m. August 17, after having flowed for several hours under a pressure of 300 pounds on the tubing and 650 pounds on the casing. Samples from the tank showed an average cut of approximately 60 per cent emulsion and salt water showing a salinity of 900 grains per gallon. The well, which is obviously flowing under a considerable hydrostatic pressure, is producing approximately only 100,000 feet of gas per day.

Proves Deep Sand

Although Universal Consolidated failed to finish No. 1 Cruz as a commercial producer, the showing is sufficient to justify the expectation of developing substantial production higher up on the structure. The well is rather far out on the east plunge and is more or less of an edge well at best. The probable existence of Miocene production in the Montebello Field has been recognized for a number of years, although operators have been reluctant to engage in deep zone exploitation due to the overproduction situation. The performance of No. 1 Cruz is almost conclusive evidence of a substantial accumulation in the Miocene.

Several deep exploratory wells will probably be started in the near future, unless drilling operations are restricted under the NRA code. Several leases in the eastern end of the Montebello Field will probably be tested in the near future, as some property was recently leased with the stipulation that drilling should be started within a short time after completion of Universal's No. 1 Cruz. The discovery has brought to light a rather interesting situation with respect to the boundaries of leases in the eastern end. Like the "forgotten man," the Montebello Field has a "forgotten strip" which may assume equal importance. This forgotten strip is an undedicated road lying between two leases of the Standard Oil Co. The strip is 40 feet wide and approximately 3,200 feet long. The strip was created when the Lucky Baldwin interests sold 60 acres to Walter P. Temple with the stipulation that a 40-foot strip was to be excluded from the deed to provide an easement for a projected road. The Baldwin estate a short time ago quitclaimed its right to the Temple interests. Meanwhile, the Temple property passed into the hands of a bank, which disposed of the property to L. L. Lewis. Lewis recently leased the 40-foot strip to M. K. Nance. This long narrow strip presents a problem because it will obligate the Standard to drill two offsets to every well started by Nance. If Nance and the Standard undertake immediate deep zone exploitation, other operators will feel at liberty to undertake similar work.

Production Up

Crude oil production in California during July averaged 489,469 bbls. per day, according to preliminary reports to Umpire Pemberton, as against a state quota of 452,500 bbls. daily. This represents an excess of 36,869 bbls., or 8.13 per cent. Steadily increasing production in the Seventeenth Street town lot area of Huntington Beach helped materially in swelling the Los Angeles Basin total, which was primarily responsible for the excess. With an allotment of 13,500 bbls. per day, this field produced 25,425 bbls., an excess of 11,925 bbls., or 88.33 per cent. The average daily production of Los Angeles Basin during July was 263,104 bbls., compared with a quota of 225,500 bbls. per day. This represents an excess production of 37,504 bbls. per day, or 16.63 per cent. The Long Beach Field was the heaviest individual offender, with a daily output of 74,431 bbls., or 17,431 bbls. in excess of the allotment of 57,000 bbls.

Fields in the San Joaquin Valley conformed fairly close to the quotas during July. Excess production was only 1,502 bbls. per day, or less than 1 per cent in excess of the allowable of 167,400 bbls. The coastal district reflected an underage of 2,137 bbls. per day, due primarily to curtailment work in Ventura Avenue. The coastal fields produced 57,461 bbls. per day during July, compared with a quota of 59,600 bbls. Fields showing excess production of 10 per cent or more over their quotas during July included Alamitos Heights, Dominguez, Huntington Beach, Long Beach, Santa Fe Springs, Coffee Canyon, Elk Hills, Rincon and Summerland. Fields underproducing 10 per cent or more during July included Belridge, Kettleman Middle Dome, Lost Hills, Mountain View, Capitan, Santa Maria, East Coyote, Lawndale and Potrero.

Huntington Beach

The city of Huntington Beach is considering joining the State in proceedings against operators who have been draining tidelands by whipstocking wells in the Seventeenth Street town lot area. Whipstocking is becoming a serious factor in California with the result that some action must be taken in the near future to legalize it or condemn it.

Wilshire Oil Co. finished two new wells in the Seventeenth Street twon lot area during the week, although one, No. 16 Huntington, blew in as a gasser doing approximately 20,000,000 feet of saturated gas per day and only a spray of oil. This well, bottomed at 4,450 feet and finished with a 6⅝-inch perforated liner, has been severaly beaned down to eliminate waste of gas. No. 16 Huntington, which blew in with a roar heard a mile away, will probably be completed as a commercial producer.

New Wells

Wilshire Oil Co.'s No. 17 Huntington, finished early in the week, came up to expectations under a natural flow doing 2,550 bbls. of clean 25.2 gravity oil per day. Bestmi Petroleum Corp.'s No. 5 Townsite is testing a zone at 3,277-3,352 feet and while it failed to come in under a natural flow, it is expected to show commercial production on the beam. This well, bottomed at 4,260 feet, was redrilled to 3,383 feet but the bottom of the hole was junked due to the loss of a drill collar and bit. Following inability to successfully sidetrack the fish, the company landed a 4¾-inch liner including 75 feet of perforated, and ran in 3,200 feet of 2½-inch tubing. The well, located on the Stearns lease, was originally completed by George F. Getty, Inc., doing 692 bbls. per day from 4,000 feet in October, 1926, and was recompleted doing 1,200 bbls. per day in November, 1926, after being redrilled and deepened to 4,260 feet.

Wells scheduled for completion before the close of August include Benito Huntington Oil Co.'s No. 1, Camroo Oil Co.'s No. 1 Smith, Simaroo Oil Co.'s No. 2 Morris and possibly Wilshire Oil Co.'s No. 9 Huntington. Potential producers expected to be finished in September include Beloil Corp.'s No. 1 Huntington, Milton Oil Co.'s No. 1 Lewis, Standard Oil Co.'s No. 1 Anderson, No. 64-B and Nos. 17 and 18 on the Pacific Electric property, Termo Corp.'s Nos. 2, 4 and 5 on fee property, No. 2 Severns of Richards & Rowan, Inc., Smith & Dea's No. 1 Smith, W. K. Co.'s No. 2 Huntington and the Wilshire's Nos. 7 and 18.

Richfield

Several completions are expected in the Richfield district of Los Angeles Basin within 30 days and if they show a substantial initial, drilling operations will, in all probability, register a pronounced increase. Only a limited amount of data is available on subsurface conditions in the Richfield district and operators are proceeding cautiously. Chanslor-Canfield Midway Oil Co. has picked up the top of the Breen zone in No. 2 Richfield at 3,700 feet and a string of 5-inch casing has been cemented preparatory to recompleting. Otis Hoyt's No. 16, Imperial Gypsum & Oil Co.'s No. 1, Long Beach Petroleum's No. 2 Mann, J. O. Seeple's No. 3 Richfield, Union Oil Co.'s No. 3 A. & P. and Standel Oil Co.'s No. 1 McCracken and No. 1 Walker should be given production tests early in September. St. Helens Petroleum is building a rig on No. 1 Brown in Block 30 of the Yorba tract.

In the West Coyote Field of Los Angeles Basin, Standard Oil Co. completed No. 113 Murphy Coyote flowing 802 bbls. of 25.2 gravity oil and 425,000 feet of gas per day, although the output is cutting approximately 35 per cent. This well, bottomed at 6,392 feet but plugged back to 6,280 feet, was finished with an 8⅝-inch water string landed at 5,504 feet and 6,238 feet of 2½-inch tubing. Standard is working on No. 53 Emery and is rigging up rotary equipment in No. 114 Murphy Coyote. A new well is expected in the Dominguez Field within 10 days, as Shell Oil Co. is in the pay at 4,300 feet in No. 45 Reyes. Shell has one other well under way but it is not expected to be finished for three or four weeks. No. 4 Childs of Republic Petroleum is in a sandy shale at 3,500 feet, while Sunrise Petroleum is drilling in No. 1 Dominguez at 4,300 feet. Union Oil Co. has spudded in No. 4 Vidor in the Playa Del Rey Field but it is not

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	August 5		July 29			
	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Intercoastal-domestic—						
Crude oil	.....	.....	.....	.....	78,085	.....
Fuel oil	.....	.....	.....	.....	805,661	.....
Diesel and gas oil	.....	.....	.....	.....	1,085,064	324,883
Gasoline	.....	.....	518,787	74,112	5,848,453	5,273,037
Kerosene	.....	.....	.....	.....	502,970	154,372
Foreign exports—						
Crude oil	88,460	12,637	67,687	9,670	4,277,752	5,095,768
Fuel oil	358,272	51,182	20,786	2,967	4,762,432	5,394,384
Diesel and gas oil	71,215	10,174	.....	.....	2,183,478	1,495,546
Gasoline	92,983	13,283	45,050	6,436	3,581,507	5,490,505
Kerosene	13,873	1,982	70,084	10,012	1,104,821	1,529,382
Naphtha distillates	.....	.....	.....	.....	.....	120,075
Coastwise-domestic—						
Crude oil	127,141	18,163	128,673	18,382	4,855,869	8,785,270
Fuel oil	99,000	14,143	54,421	7,774	5,911,287	7,370,442
Diesel and gas oil	27,804	3,972	.....	.....	800,394	780,616
Gasoline	131,009	18,716	370,150	52,879	7,585,294	9,347,384
Kerosene	4,238	620	.....	.....	119,586	102,396
Naphtha distillates	.....	.....	.....	.....	27,651	.....

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Diesel and gas oil	.....	.....	.....	.....	280,531	322,686
Gasoline	51,925	7,418	79,930	11,426	702,977	578,391
Kerosene	.....	.....	.....	.....	482,430	.....
Lubricants	.....	.....	.....	.....	24,366	23,829
Foreign exports—						
Crude oil	77,520	11,074	.....	.....	1,224,818	707,651
Fuel oil	44,175	6,311	41,234	5,748	466,775	644,719
Diesel and gas oil	5,105	729	8,131	1,162	639,898	484,102
Gasoline	68,571	9,796	89,983	12,855	2,759,094	2,250,296
Kerosene	7,384	1,055	8,014	1,145	578,878	744,020
Lubricants	.....	.....	.....	.....	35,902	24,934
Coastwise-domestic—						
Fuel oil	87,732	12,533	73,562	10,513	2,077,838	1,816,970
Diesel and gas oil	.....	.....	.....	.....	166,162	238,094
Gasoline	231,876	33,125	142,784	20,398	2,489,245	2,287,606
Kerosene	.....	.....	4,627	661	78,246	80,467
Lubricants	.....	.....	.....	.....	2,751	.....

scheduled for completion until the end of September or early in October.

San Miguelito

Continental Oil Co. is expected to make a production test on No. 2 Grubb in the San Miguelito Field of Ventura County in a few days, as drilling operations were concluded late last week and the 7-inch cemented through perforations at 7,298 feet. This well is substantially lower on the structure than No. 1 Grubb, the discovery well, as the former is bottomed at 7,926 feet, compared with a bottom of 7,152 feet in No. 1 Grubb. Honolulu has abandoned No. 1 Valenzuela as a duster at 7,873 feet and while it has another location a little more favorably located it is not expected to undertake any additional drilling in this field for the present. Honolulu's No. 1 Valensuela, Section 23-3-24, passed through a fault at 7,400-7,500 feet, which showed an estimated vertical displacement of 4,200 feet.

General Petroleum has approximately 600 feet of hole to make in No. 15-A Barnard before concluding drilling operations in this deep test in the Ventura Avenue Field, as it has just passed the 9,000-foot level. This is the first deep well started by General Petroleum in Ventura Avenue since discovery of the 57 zone by Associated Oil Co. two years ago. Associated has three incompleted projects under way in Ventura Avenue Field but is starting rig construction for two new wells on the V.L.&W. lease. Shell is working on two wells but is building rigs for Nos. 78 and 79 on the Taylor property. There was no substantial change in operations in the Elwood Field during the week, but rig construction is expected shortly for two new wells. Barnsdall is now drilling two projects, while Signal Oil & Gas Co. is rigging up No. 2 on tideland permit No. 98, preparatory to a resumption at 3,686 feet. Operators in the Elwood Field recently indicated their intention of exploiting the Sespe formation and several additional wells are expected in the near future. In the Goleta gas field of Santa Barbara County, Standard Oil Co. is nearing the 2,000-foot level in No. 1 Chase & Bryce, on property adjoining the More ranch of General Petroleum where the latter has finished three commercial gas producers up to the present.

Kettleman Hills

Ed McAdams is expected to resume drilling operations in No. 1 Lillis-Welsh, the deep test in the Kettleman North Dome Field, within a few weeks. Standard is starting four new wells in the North Dome, but this is more or less of a routine nature and does not indicate a departure from restricting drilling operations. Union Oil Co. spudded in No. 4 Amerada King a few days ago and subsequently cemented a string of 18⅝-inch casing at 1,000 feet. A check of development work under way indicates the probable completion of three or four new wells in the Kettleman North Dome Field within 30 days.

Lost Hills-Belridge

General Petroleum is expected to resume drilling in No. 1 Berry, a deep test in the South Belridge Field of Kern County, within a few days. This well, suspended a year or so ago at 8,260 feet, was still in the brown shale when drilling was concluded. In the Lost Hills Field, Associated Oil Co. has concluded a formation test on No. 1 Williamson, a joint project with Richfield Oil Co., and is preparing to drill ahead. Lincoln Petroleum Co. has suspended drilling on its wildcat in the Devils Den area of Kern County at 2,103 feet. Pyramid Oil Co. is still drilling its Devils Den wildcat, the bit having been down 4,125 feet early this week.

Dana Hogan has temporarily suspended operations in No. 1 Ladd, a wildcat in Fresno County, at 6,605 feet, and the crew and equipment are being transferred to the Mountain View district of Kern County to drill a second well on the Wharton property. One new well was spudded at Mountain View during the week and with the starting of work on Mohawk Petroleum Co.'s No. 2 Hood there are five incompleted drilling wells under way in this field. Superior Oil Co. is making preparations to spud on the Mantes property in the Jacalitos Hills. Western Gulf is making good footage in its initial test on S. P. Land Co. property in Section 15-17-15, but has not encountered anything of unusual importance down to the 3,400-foot level. The Mount Poso and Round Mountain Fields of Kern County have shown a slight increase in drilling during the past few weeks and are expected to show a further gain within 15 days, as Gentral Petroleum, Ed Richter and California Western Oil Co. are to start new wells. Shell Oil Co. picked up the top of the Grit zone in the Mount Poso Field at 1,501 feet and landed a string of 8⅝-inch casing.

In the Long Beach Field the R. R. Bush Oil Co. has completed No. 1 I. P. C., pumping 110 bbls. of 24.6 gravity oil cutting 15 per cent. This well, bottomed at 4,103 feet, was finished with a 6⅝-inch liner, including 203 feet of perforated. V. R. Johnson finished No. 1 Signal with a 4-inch perforated liner after completing the hole at 5,102 feet, but the initial production on the beam, 145 bbls., showed a cut to 27 per cent. Shell Oil Co. is reaming No. 40 Alamitos preparatory to landing a water string and concluding a production test. This well is the first project to be drilled by Shell in the Long Beach Field in several years. In the Rosecrans district of Los Angeles Basin, Barnsdall has plugged back No. 1 Trust from 6,729 feet to 6,693 feet, but the Mining Bureau deferred decision on the water shut on the 6⅝-inch landed and cemented at 6,428 feet.

Louisiana-Arkansas Fields

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and it will be abandoned. R. L. Gay's No. 1-B Bowman-Hicks, SW NE Section 22-9-13, a mile northeast of Barbare's well, and a mile and a half south and east of nearest production, got an estimated 5,000,000 feet of gas with a good spray of oil on drill stem test at 1,880-1,988 feet with the tool open 20 minutes, cemented back to 1,938 feet and recemented 8-inch at 1,884 feet for another test. H. C. Lessenger's No. 1 Bowman-Hicks, NW SW Section 13-9-13, has a show of gas at 3,210 feet and was arranging to test. This is the deepest show Converse district has yet made. Location is a mile and a quarter east of nearest production and on the extreme eastern edge of the proven area.

Pelican Natural Gas Co.'s No. 23 Louisiana Long Leaf Lumber Co., SW SE Section 29-8-11, Zwolle district of Sabine Parish, was flowing 40 to 50 bbls. by heads through casing from 2,502 feet and was to run tubing.

R. T. Henderson's No. 1 Sistrunk, SE NW Section 9-9-12, a Sabine Parish wildcat 2 of 3 miles miles southwest of the old Pleasant Hill Pool, blew in while coming out with core barrel with an estimated 15,000,000 feet of gas with salt water. With 1,800 feet of drill stem still in the hole arrangements were under way to kill it and set a string of 4½-inch. A shot of acid at 1,999 feet failed to develop anything and another shot after a show of oil and gas at 2,079 feet had the same results and a drill stem test at 2,450-60 feet in lime developed 13 joints of mud and water. J. F. Morrissey's wildcat in the southwest corner of Sabine Parish, No. 1 Wyatt Lumber Co., NW NW Section 13-4-12, is shut down for orders at 1,303 feet. Rolland Oil Co., on orders from Mrs. Frank Foster, widow of the principal owner of the block and well, who was killed not long ago in an airplane accident at Atlanta, Ga., is rebuilding derrick on No. 1 Stevens, SE NW Section 17-9-11, Sabine Parish, and the test will be carried to conclusion as originally planned.

In Vernon Parish, Conroe-Jackson, Llano Del Rio Co-operative Colony's No. 1 fee, SE NE Section 6-1n-9, was coring in the Cockfield at 3,125 feet; Smith, Burton and Kelly were drilling toward surface casing seat on No. 1 Fullerton Minerals Co. in the SW SW Section 32-1n-5, and Vernon Oil Co.'s No. 1 Delta Land & Timber Co. was shut down at 2,350 feet.

ARKANSAS-MISSISSIPPI-ALABAMA

C. W. Alworth did not run drill stem test on No. 1 W. D. King, SE SW Section 16-17-20, Columbia County, to test 4 feet of sand at 1,860-64 feet as planned and the rig is shut down. G. W. Harper's No. 1 Read-Bodcaw, SW NW Section 16-15-22, Lafayette County, was dry on drill stem test at 2,040 feet and was drilling at 2,172 feet. The four active wells in Miller County were simply "making hole" or shut down with nothing of importance to report on either of them. Neither was there any news of importance out of the border counties or East Texas, Shelby County included.

With Mississippi wildcats it was somewhat different. Eastman-Gardiner Interests' No. 1 Bank of Deming, NW NW Section 26-8-15, Covington County, was drilling black shale at 6,025 feet. Lamar Oil Co.'s No. 1 Scott, NE NE Section 18-2n-14, Lamar County, was shut down at 2,010 feet after a show of gas with salt water at 2,860-3,010 feet. Bob Dalton and others' No. 1 Majurs, SE SE Section 25-6n-11, Newton County, was dry and abandoned at 2,750 feet. Love Petroleum Co.'s No. 2 Interior Lumber Co., an old well in Section 28-6-2e, Rankin County, was drilling red shale at 3,420 feet. M. L. Culley and others' No. 1 Owen, Section 2-8-9, Newton County, is temporarily abandoned at 755 feet.

In Alabama, H. H. Givens' No. 1 Ashman (Mrs. H. Brill) is shut down at 2,150 feet. Location is in Section 10-6s-5e, Baldwin County. C. V. Carey's No. 1 King, NE NW Section 35-8-4w, Cullman County, was drilling lime at 1,850 feet. Escambia Oil Co. was drilling sandy lime at 4,850 feet on No. 1 State Line Lumber Co., NE NW Section 24-1n-10, Escambia County. DeSoto Oil & Gas Co.'s No. 1 Gardner, Section 22-15-16, Lamar County, was in hard lime at 3,970 feet. Ray L. Eastabrook's No. 1 Walton Land & Timber Co., Walton County, Florida, was shut down at 5,250 feet.

IMPORTANT NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Standard Oil Co., No. 1 Goleta, Santa Barbara Co.	20- 4-28	5,550	hd. sh. drilling
Monterey Expl. Co., No. 1 Point Concepcion, S. Barbara Co.	33- 5-33	1,102	hd. sh. drilling
Bolsa Chica, No. 1 Coal Oil Point, Santa Barbara Co.	tideland	4,085	suspended
Meganos Oil Co., No. 1 Purisima, Santa Barbara Co.	28- 8-24	rig	rigged up
Cuyama Oil Co., No. 1 Cuyama, Santa Barbara Co.	12-10-27	3,337	suspended
Woodrow Pet., No. 1 Rincon, Ventura Co.	4- 3-24	7,392	suspended
Bardeen Pet., No. 1 Fillmore, Ventura Co.	13- 4-19	2,930	sd. sh. drilling
Hancock Oil Co., No. 1 Fillmore, Ventura Co.	13- 4-19	2,271	sd. sh. drilling
Oil Ridge Oil Co., No. 1 Fillmore, Ventura Co.	1- 4-19	....	road
Los Cerritos Pet., No. 1 South Mountain, Ventura Co.	17- 3-20	....	build road
Kneiper & Atha, No. 1 Barsdale, Ventura Co.	7- 3-19	316	suspended
Williamson & Donaher, No. 1 Simi, Ventura Co.	36- 3-18	491	hd. sd. drilling
Dabney, H. R., No. 1 Simi, Ventura Co.	32- 3-18	823	gr. sd. drilling
Continental, No. 2 Miguelito, Ventura Co.	33- 3-24	7,926	will test
C. C. M. O., No. 3-A Miguelito, Ventura Co.	33- 3-24	4,166	suspended
Midlands Pet., No. 1 Ojai, Ventura Co.	9- 3-23	7,841	redrilling
Wilshire Oil Co., No. 1 Sulphur Mountain, Ventra Co.	26- 4-21	2,198	suspended
Kirk, W. A., No. 1 Sulphur Mountain, Ventura Co.	21- 4-21	316	sd. sh. drilling
Mosher, J. W., No. 1 Santa Paula, Ventura Co.	22- 4-21	1,470	br. sh. drilling
Las Posas Pet., No. 1 Las Posas, Ventura Co.	32- 3-20	4,560	br. sh. drilling
International Oil Developers, No. 1 Conejo, Ventura Co.	33- 2-20	2,790	hd. sd. drilling
Hub Pet. Co., No. 1 Gould Hills, Kern Co.	22-29-21	6,840	suspended
Purman, T. H., No. 2 Gould Hills, Kern Co.	27-29-21	335	suspended
Casa Mira Oil Co., No. 1 Belridge, Kern Co.	29-28-20	4,050	br. sh. drilling
General Pet., No. 1 Belridge, Kern Co.	20-28-21	8,260	rigging up
Cumberland Oil Co., No. 2 Devils Den, Kern Co.	17-26-18	3,270	suspended
Holloway, A. S., No. 1 Devils Den, Kern Co.	11-25-18	1,848	suspended
Lincoln Pet., No. 1 Devils Den, Kern Co.	10-25-18	2,104	suspended
Hanna, Tom, No. 1 Devils Den, Kern Co.	25-25-18	3,516	suspended
Pyramid Hills Oil Co., No. 1 Devils Den, Kern Co.	24-25-18	4,140	hd. sh. drilling
Fowler, F., No. 1 Blackwell Corner, Kern Co.	15-26-19	3,170	suspended
Associated, No. 1 Lost Hills, Kern Co.	2-26-20	5,154	formation test
Howells Bros., No. 1 Round Mountain, Kern Co.	32-28-20	812	hd. sh. drilling
Keno Pet. Co., No. 1 Lerdo, Kern Co.	14-29-27	4,531	rebuild rig
Seale, Fred, No. 1 Edison, Kern Co.	8-30-29	....	location
Carneal Pet. Co., No. 1 Edison, Kern Co.	19-30-30	1,901	suspended
White, L. L., No. 1 Union Avenue, Kern Co.	6-30-28	mtl.	foundation
Shell Oil Co., No. 2 Mountain View, Kern Co.	29-30-29	4,926	hd. sd. drilling
Hogan, Dana, No. 2 Mountain View, Kern Co.	29-30-29	mtl.	building rig
Bankline Oil Co., No. 1 Mountain View, Kern Co.	4-31-29	4,087	br. sh. drilling
Barnsdall Oil Co., No. 1 Mountain View, Kern Co.	31-30-29	3,711	hd. sh. drilling
Long Beach Pet., No. 1 Mountain View, Kern Co.	29-30-29	2,171	cemented
Mohawk Pet., No. 1 Mountain View, Kern Co.	30-30-29	5,958	suspended
Mohawk Pet., No. 2 Mountain View, Kern Co.	30-30-29	1,007	sd. sh. drilling
Comanche Oil Co., No. 1 Comanche, Kern Co.	15-32-29	rig	suspended
Badger Oil Co., No. 1 Wheeler Ridge, Kern Co.	31-11-19	4,271	br. sh. dilling
Catton & Lasthe, No. 1 Madera, Madera Co.	22-10-17	2,390	suspended
Russ Oil Synd., No. 1 Kingsburg, Fresno Co.	20-12-21	2,191	hd. sh. drilling
Bergman, Harry, No. 1 Kingsburg, Fresno Co.	12-13-21	4,148	suspended
Graham & Loftus, No. 1 Raisin City, Fresno Co.	20-15-18	5,906	suspended
Emerich Oil Co., No. 1 Mendota, Fresno Co.	35-13-13	3,840	suspended
Western Gulf, No. 1 S. P., Fresno Co.	9-17-15	3,453	sd. sh. drilling
Hogan, Dana, No. 1 Joaquin Ridge, Fresno Co.	25-20-16	6,605	suspended
Superior Oil Co., No. 1 Jacalitos, Fresno Co.	6-22-16	rig	rigging up
Kent & McDonald, No. 1 Carriso Plains, S. Luis Obispo Co.	3-32-22	3,830	suspended
Paso Robles Oil Co., No. 1 Edna, San Luis Obispo Co.	27-27-11	4,191	suspended
Guess, E. R., No. 1 Corcoran, Kings Co.	7-21-21	6,197	suspended
Brown, A. M., No. 1 Cloud, Kings Co.	10-23-19	1,205	suspended
Brown, A. M., No. 2 Cloud, Kings Co.	10-23-19	830	suspended
Knudsen & Schmidt, No. 1 Roof Ridge, Kings Co.	36-23-17	6,873	suspended
Magee & Stone, No. 2 Alpaugh, Kings Co.	33-24-22	3,149	suspended
Cardinal Oil Co., No. 1 Los Banos, Merced Co.	26-10-9	rig	rigged up
Merced Oil & Gas, No. 1 Chowchilla, Merced Co.	3- 9-16	rig	suspended
Na-Pa Oil Co., No. 1 Griffith, Napa Co.	7- 8-3	3,742	br. sh. drilling
Oakdale Oil Co., No. 1 Oakdale, Stanislaus Co.	5- 2-10	4,815	hd. sh. drilling
Pacific Northern Oil Co., No. 1 Guinda, Yolo County	23-12-3	4,349	gr. sd. drilling
Buttes Oilfields Co., No. 1 Marysville, Sutter Co.	35-16-1	2,731	gas—shut in
Buttes Oilfields Co., No. 2 Marysville, Sutter Co.	34-16-1	3,225	fishing
Tehama Pet. Co., Well No. 1, Glenn Co.	4-22-5	4,936	reaming
Orland Synd., No. 1 Orland, Tehama Co.	31-23-3	3,748	suspended
Marker Drlg. Co., No. 1 Orland, Tehama Co.	21-23-5	3,030	suspended

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Palm Ridge Oil Co., No. 1 Palms, Los Angeles Co.	2- 2-15	6,550	hd. sh. drilling
Kupfer, A. M., No. 1 Inglewood, Los Angeles Co.	17- 2-14	5,863	suspended
Pacific Gulf, No. 1 Athens, Los Angeles Co.	19- 3-13	6,094	suspended
Pacific Dev. Co., No. 1 Wilmington, Los Angeles Co.	16- 3-13	mtl.	building rig
Pacific Oil Inc. Co., No. 1 Wilmington, Los Angeles Co.	28- 4-13	3,640	cleaning out
Sunrise Pet. Co., No. 1 Domingues, Los Angeles Co.	3- 4-13	4,240	hd. sd. drilling
Oakes & Mead, No. 1 Lyndwood, Los Angeles Co.	31- 2-12	4,940	redrilling
Community Oil Co., No. 1 Montebello, Los Angeles Co.	34- 1-11	5,281	cleaning out
Universal Consd., No. 1 Montebello, Los Angeles Co.	5- 2-11	7,013	oil sand
Andrus & Hutcheson, No. 1 El Monte, Los Angeles Co.	11- 1-11	1,792	suspended
Signal Pet., N. 1 Puente, Los Angeles Co.	14- 2-10	4,908	plug 3,700 ft.
Willetts Pet., No. 1 Saugus, Los Angeles Co.	35- 5-16	2,074	suspended
Alpha Oil Co., No. 1 Calabasas, Los Angeles Co.	32- 1-18	1,199	suspended
Ball, W. T., No. 1 Newhall, Los Angeles Co.	34- 3-16	3,582	suspended
Big Four Oil Co., No. 1 Newhall, Los Angeles Co.	32- 4-16	2,230	suspended
Marble, Willard, No. 1 Van Nuys, Los Angeles Co.	6- 2-16	3,410	reaming
Plymouth Oil Co., No. 1 West Coyote, Los Angeles Co.	24- 3-11	rig	rigging up
Nuoli Co., No. 1 Newport, Orange Co.	29- 6-10	3,901	suspended
Mineral Exploration, No. 1 Capistrano, Orange Co.	8- 2-7	4,362	suspended
Saddleback Oil Co., No. 1 El Toro, Orange Co.	8- 6-7	89	suspended
Placentia Dev. Co., No. 1 Placentia, Orange Co.	31- 3-9	499	suspended
Brown, W. F., No. 1 Atwood, Orange Co.	26- 3-9	rig	rigged up
Spindle Top Oil Co., No. 1 Salton Sea, Riverside Co.	25- 7-10	3,590	suspended
Great American Pet., No. 1 Chino, San Bernardino Co.	15- 2-8	2,680	hd. sd. drilling
Great American Pet., No. 2 Chino, San Bernardino Co.	18- 2-8	1,216	sd. sh. drilling
McCarthy, C. F., No. 1 Chino, San Bernardino Co.	14- 2-8	402	suspended
Mason Oil Co., No. 1 Salton Sea, Imperial Co.	1-17-15	680	suspended

Jeffries-Lambeth Gas Well Opens New Pool in Starr County; Three More Tests Started

By B. D. STEVENSON
Staff Correspondent, Southwest Texas Fields

SAN ANTONIO, Tex., Aug. 21.—Jeffries-Lambeth Drilling Co.'s No. 1 Starr County Cattle Co. is a big gas well, opening a new pool in Starr County near the north end of Porcion No. 89 of the jurisdiction of Camargo. The well was completed early last week and was opened again last Thursday. Pressure is about 1,100 pounds and the volume not gauged is estimated all the way from 20,000,000 to 60,000,000 feet and it is a wet gas making considerable gasoline. It is on a block of about 2,000 acres and it is understood there have been preliminary negotiations toward the purchase of the well and block of leases. Three new tests are being started around the edge of the block by other independents, one north, one northwest and one southeast.

The block of leases originally was taken by A. C. McGahhey and turned over to Jeffries-Lambeth Drilling Co., Mr. McGahhey retaining an interest. The well is located 11,572 feet from the north line and 2,490 feet from the east line of the Porcion and is 8 miles northeast of Rio Grande City.

The well has been shut in. It makes sand when opened due to the absence of screen in the hole. Sand depth is given as 2,450-55 feet and it stopped in sand. Production is coming from sand near the top of the Jackson. This test had a sand at 1,516-22 feet that also showed gas and on drill stem test was estimated at around 20,000,000 feet. It is about 25 miles southeast of the field recently opened by the Sun Oil Co. in northwestern Starr County.

Subsequent drilling by the Sun has resulted in completion of a gas well half a mile south of the discovery well. The discovery well, No. 1-A Guerra, when opened gauged 15 bbls. of oil hourly in addition to a large volume of gas in sand at 2,208-32 feet. The No. 1-B, a half mile north, was a failure and the No. 1-C, a half mile south, is a big gas well in sand at 2,141-82 feet, doubtless the same sand as in the discovery well, the difference in depth being accounted for by the elevation. Sun now is starting the No. 2-A, 1,500 feet southeast of No. 1-A.

Confusion Over No. 1-C

There was confusion over the No. 1-C. It was killed and deepened to below 2,300 feet and plugged back and recompleted as a gas well, but has been killed again. It was reported drilling at 3,175 feet and planning to drill to 3,500 feet.

There has been talk of tests to be drilled around the Sun block by other interests, but the first definite announcement of location is that for W. A. Smith's No. 1 A. Munos, 3,430 feet from the northeast end and 330 feet from the southeast line of the El Javali grant, which is approximately 1 mile almost due west from the Sun's discovery well.

Around the new Jeffries-Lambeth Pool there are three wells starting. W. R. Shankle is rigging up the No. 1 M. M. Garcia, about 1 mile north and slightly east, 150 feet from the southwest and northwest lines of Block 33 of subdivision of Porcion No. 90, jurisdiction of Camargo, and approximately 10,000 feet from the north line of the Porcion and 50 feet from the east line. It will use gas from the Jeffries-Lambeth well for fuel.

Harrison and others are making a location about 1 mile southeast of Jeffries-Lambeth, and Goodwin & Yantis are rigging up for the No. 1 Kelsey Bass in Porcion No. 87, about 2 miles northwest of Jeffries-Lambeth. Pending negotiations which may result in the sale of the property no additional locations are being planned on the Jeffries-Lambeth block.

There are reports to the effect that there has been considerable trading in leases in Starr County by major companies, but the information is not specific.

Thelma Wells has made location for the No. 1 Martinez, 2,465 feet from the west line and 2,550 feet from the north line of Share 12-B, subdivision of Porcions 70, 71 and 72, the location being about 2 miles east of the Texas Co. producer on the Guerra land, drilled several years ago, in the southwestern part of the county.

Northern Duval County

Both the Allen & Morris No. 1 Sutherland at the northeast end of the North Kohler Pool and the DeSoto Oil Co.'s No. 2 Wood-Welder, 3 miles northeast of the North Government Wells Pool are drilling deeper.

Allen & Morris at 2,357-64 feet had a showing of oil, set casing and tested, but it refused to flow. It was thought to be good for about 50 bbls. on the pump, 30 gravity oil. Late last week it was drilling at 2,500 feet. There were hopes that it was to be the real opening of an important pool. Two other tests at the north end of this district were still locations at the close of the week, Brooklyn Oil Co.'s No. 1 J. P. Atkin, 330 feet from the north line of Survey 184, and O. W. Killam's No. 1 J. P. Atkin, a quarter mile south of it in the same survey.

North of the North Government Wells Pool the De Soto Oil Co.'s No. 2 Wood-Welder had sand at 2,130-50 feet and the location is just 660 feet east of the No. 1 that made a gas well at that depth. No. 2 set casing and swabbed, but reports that came in show the well drilling ahead at 2,310 feet and operators are silent on results of the swabbing.

This district northeast of the North Government Wells Pool has been attracting attention. The industry seems to think there ought to be another pool or else an extension of the North Government Wells Pool. O. W. Killam has started rigging on his No. 1 Wood-Welder for which location was made last week 9,260 feet from the east line and 3,540 feet from the south line of Survey 102, about 1 mile on northeast of the De Soto tests, which are in Survey 211.

Completions in the North Government Wells Field added production, but the most interesting new element is the location for the Sun Oil Co.'s No. 5 Weiderkehr, 330 feet from the north and east lines of Survey No. 361, 1½ miles or more west of the field and approximately 1,600 feet south of the southernmost producer of the new unnamed pool northwest of the North Government Wells Pool.

Test Ready for Drilling In

The test north of the Sun is the Reynosa Oil Corp.'s No. 1-B Duval County Ranch Co. in Survey 363, purchased from William B. Stewart. Reynosa's No. 2-A, on the same property, with casing set at 2,255 feet, was due to be drilled in. This new pool is to be developed further for the Humble is starting its test in the SW cor. of the NW of Survey No. 362, an east offset to Magnolia's discovery well.

Among the wildcats attracting attention in Duval the past week is the Conway & Campbell No. 1 Hoffman in the Sophie Hoffman Survey No. 114, about 5 miles southeast of the Sarnosa Pool that got the top of the Jackson about 80 feet high as compared with the Plymouth Oil Co.'s No. 2 Hoffman. It topped the Jackson at a few feet above 1,965 feet and was definitely in it at that depth. It is drilling ahead and has a high log to its advantage.

G. G. Mortimer's No. 1 Peal in Survey No. 792, west of the North Kohler Pool, was reported last week abandoned at 2,411 feet. This was an error. The total depth was 2,525 feet and with an elevation of 686 feet it had the Cole sand at 1,523-30 feet and the Mirando sand at 2,476-2,501 feet. There will probably be more drilling in that territory.

Southern McMullen County, the hope chest of many who look upon it as the next chance for a Jackson sand producing pool, is watching three tests at this time with another about to be started. S. R. C. Oil Co. and Sinclair Prairie's No. 1 Reeves, nearly due north of the North Government Wells Pool, started coring for the Government Wells sand last week at 1,710 feet, and Shumway's No. 3 Shiner, farther north in about the center of the county, got salt water in the Government Wells sand at 2,072 feet and is drilling deeper, last reported at 2,350 feet. French Oil Corp.'s No. 1 Two Rivers Ranch, still farther north in the county, topped the Mirando sand at 1,048 feet and got salt water.

Nixon & Foster recently made location for the No. 1 Lowe about 5 miles west of the Government Wells trend and in Survey No. 132 in southwestern McMullen County. C. B. Bunte, Inc., is now checking titles on it and will drill the test starting soon.

In Karnes County the Accumulative Royalty Co.'s No. 1 Rudd, 6 miles south of Kenedy, has been abandoned at contract depth of 2,100 feet, but the crew has taken the deal over and will move the rig and drill another test.

Balcones Fault

C. W. Boler's No. 1 Kearney, in Bexar County, which was expected to open a new field in the Edwards lime, made sulphur water instead. Activity now centers around the Caldwell-Bastrop County section. There is one other test getting started, the Amerada Petroleum Corp.'s No. 1 Doering, in southwestern Frio County, down less than 2,000 feet on a test that will go around 6,000 feet.

C. J. Webster Oil & Gas Co. has started drilling the No. 1 J. W. Fulps, in Caldwell County, about half a mile east of the company's No. 1-A McCrory, a crevice producer, 3 or 4 miles from any production that opened a new field. The conviction is that there is an Edwards lime field there somewhere between the Texas Co.'s No. 1 Branyon, on the southwest, a crevice producer brought in several years ago and later circled with dry holes, and the Dale Field on the northeast. The No. 1 Fulps late last week started drilling below the surface casing. Webster has locations for some other wells in the district and plans not to stop with the No. 1 Fulps.

The Judge Batts No. 2 Roebuck had a little show of oil. It is northeast of the Webster test.

Wildcat Operations in Southwest Texas

Week Ending August 19

Company, well, farm name, section and block—	Remarks:
ARANSAS COUNTY	
Harry Traylor's No. 1 Dietzel, 330 ft. from SW and SE lines of 30-ac. tract in J. Smith Sur.	Abd. location.
ATASCOSA COUNTY	
A. Blume's No. 1 Shaw, 690 ft. from N line, 1,750 ft. from E line of 100-ac. tract in W. Farquhar Sur. No. 275	T.D. 1,996 ft; twisted off D.S.
E. C. Burton's No. 1 Smith-Mowinkle, 2,100 ft. from N line, 200 ft. from W line of F. Peres Sur. No. 172.	T.D. 624 ft.; standing.
BASTROP COUNTY	
Adams & Lyles' No. 1 Peter Goertz, 1,075 ft. from N line and 250 ft. from W line of 40-ac. tract in Andrew Mayo Sur.	T.D. 2,690 ft.; abd.
Detroit Texas' (M. O. Rayor) No. 1 J. W. Mlear, 150 ft. from N and E line of 62-ac. tract in McMillam Sur.	T.D. 2,272 ft.; abd. dry.
J. E. Emanuel's No. 1 H. Klemm, 317 ft. from W line, 300 ft. from S line of tract in R. S. Teal Sur.	T.D 850 ft; standing.
Ca-Tex O. & G. Dev. Corp.'s No. 1 Harris, 150 ft. from NW line, 3,000 ft. from SW line of John Maxmillan Sur.	T.D. 2,370 ft.; swbd. dry.
Ca-Tex O. & G. Dev. Corp.'s No. 1 Pendergrass, 1,343 ft. from NE, 310 ft. from SE line of 130-ac. tract in Henry Warnell Sur.	Rigged up and S.D.
Hinton & Dodson's No. 1 Moncure, Highsmith and Burton Surveys, in M. Rosseau League, 8 mi. SW from Bastrop	T.D. 450 ft.; drlg.; shale and boulders.
Three Oil Co.'s No. 1 M. Ingram, 1,250 ft. from SW line, 940 ft. from SE line of tract in M. Morgan Sur.	Derrick.
BEE COUNTY	
Holland Oil Co.'s No. 1 Copeland, NE cor. of 400-ac. tract in Pace Sur.	Spudded in.
Nichols & Bruner's No. 1 Grover Heidenfels, 891 ft. to S line, 1,950 ft. to E line of 337-ac. tract survey, John Bryan, 4 miles S from Beeville	T.D. 4,900 ft.; tools stuck at 4,780 ft.; fishing.
BELL COUNTY	
Watson, Johnson & Brady's No. 2 Brady	T.D. 1,095 ft.; S.D. in lime.
R. S. Wilson's No. 1 Davenport, 200 ft. from W line, 700 ft. from S line of J. L. Herred Sur.	T.D. 1,061 ft.; U.R. 6⅝-in.
BEXAR COUNTY	
O. N. Beer's No. 1 S. W. Kearney, 150 ft. from S and E lines of 23-ac. tract in S. C. I. Peres Sur.	T.D. 1,472 ft.; tested sulphur wtr.; very little oil.
A. M. Blume's No. 1 Ridder, 300 ft. from W line, 1,000 ft. from N line of tract in Sur. No. 58, County Blk. 1,596	T.D. 551 ft.; drlg.
Brooklyn Oil Co.'s No. 1 De La Garza, 660 ft. from N and W lines of Blk. 37 of Pippins Subd. of Randado Grant Sur.	Rigging up.

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Several Michigan Tests Nearing Producing Pay; Central Ohio Still Busiest in Central West

By GEORGE A. WHITNEY
Staff Correspondent, Central West Fields

FINDLAY, Ohio, Aug. 21. — Several wells are nearing the producing formations in the Central Michigan and other areas of the state. W. Hunter Atha's No. 1-A, in the northeast corner of the F. H. Faulker farm, NE NE SE Section 7, Lee Township, Midland County, a wildcat completed several days ago, showed an initial of 118 bbls., was given an acid test, and increased to 904 bbls. McClanahan Oil Co.'s No. 1 well, on the G. R. Hathaway farm, in the S half S half NE Section 17, Porter Township, Midland County, which produced an initial of 1,710 bbls., was given an acid treatment and increased to 200 bbls. an hour. It was drilled 12 feet deeper.

Gordon and Stewart's No. 3, on the J. B. Richmond farm, NE SE NW Section 22, Porter Township, which was good for 300 bbls. initial during July, will be drilled into the Dundee. It got its oil in the Traverse formation at 2,900 feet and considerable water was found. Fred W. Turner and others' No. 2, 990 feet from the north and east corners of the C. L. Baxter farm, SW NE NE Section 22, Porter Township, is on top the Dundee formation and will be completed within a few days.

Ready to Spud

Gordon & Stewart's No. 1, in the northwest corner of the H. Carter farm, NW NW NE Section 21, Porter Township, is drilling below 3,200 feet. Fred W. Turner and others' No. 3, 990 feet from the north line and 330 feet from the east line of the C. L. Baxter farm, SE NE NE Section 22, same township, is getting ready to spud. J. Mark Harvey's test, 330 feet from the south line and 990 feet from the west line of the Farmers State Bank land, SW SW SE Section 8, Porter Township, is on top the Dundee formation.

J. W. Wilson, trustee, is reported drilling close to the Dundee in No. 1, 330 feet from the north and east lines of the William and Sophia Carter farm, NE NW Section 18, Porter Township, is very close to the Dundee formation, and is being closely watched because of its potentialities of extending the producing zone westward. Stork Oil Co.'s test, 990 feet from the north and west lines of the J. H. Otway, SE NW NW Section 26, Porter Township, is drilling in the Dundee and due for completion within a very short time. Pure Oil Co.'s No. 2, 330 feet from the south line and 1,650 feet from the east line of the C. E. Baxter farm, SE SW SW Section 15, Porter Township, is drilling below 3,000 feet and should be completed within a few days.

Talbot Oil Co.'s No. 5-B on the State of Michigan land, NE NE SE Section 11, Greendale Township, Midland County, is drilling below 3,000 feet.

C. C. Flaraida and others' test, NE SE NW Section 14, Greendale Township, Midland County, is reported shut down in the Dundee.

Strange and Fortney Co.'s No. 1 well on the Campbell farm, NW NW SW Section 17, Porter Township, drilled in during July with an initial of 350 bbls., was treated with acid and is reported doing 2,000 bbls. a day.

Drilling Permits

Permits issued were: To A. S. Cochran and others for No. 1, 330 feet from the south line and 246 feet from the west property line of the Mrs. Maud E. Phillips farm, SW NE SW Section 31, Elbridge Township, Oceana County; to H. C. Nelson for No. 1, 346 feet from the north line and 330 feet from the east property line of the A. Dootlittle farm, N half NE SE Section 36, Hart Township, Oceana County; Pure Oil Co., for No. 2, 330 feet from the north line and 330 feet from the west property line of the F. W. Howard farm, W half SE Section 17, Porter Township, Midland County; to C. A. Smith for No. 2, 1,980 feet from the north and south line and 660 feet from the east property lines of the Elic Bushre farm, SE SW NE Section 22, Porter Township; to Johnson Oil & Refining Co., for No. 1, 276 feet from the north line and 280 feet from the west property line of the Charles Copenhave farm, SW SW Section 31, Elbridge Township, Oceana County; to Theodore Oil Co., for No. 2, 200 feet from southwest and 200 feet from the northwest property line of Dr. J. W. Campbell farm, NE SW NW Section 17, Porter Township, Midland County; to same company for No. 3, 330 feet from the south line and 270 feet from the east property line of the Dr. J. W. Campbell farm, SW SW NE Section 17, same township and county; to Theodore Oil Co., for No. 4, 990 feet from the south line and 240 feet from the east property line of the Dr. J. W. Campbell farm, NW SW NE Section 17, same township; to Stoddard & Darke, for No. 2, 330 feet from the north line and 330 feet from the west property line of the Floyd M. S. Emery farm, NW NE NE Section 21, same Township; to Stoddard & Darke for No. 1, 330 feet from the north and south lines and 330 feet from the west property line of the E. Brooks farm, C W half W half SW Section 14, Vernon Township, Isabella County; to McClanahan Oil Co., for No. 3, 330 feet from the south line and 415 feet from the west property line of the G. R. Hathaway farm, center S half SW NE Section 17, Porter Township, Midland County; to same company for No. 4, 330 feet from the north line and 250 feet from the west property line of the G. R. Hathaway farm, same section.

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Two Additional Completions in Lost Run Pool, West Virginia; One Being a Fair Producer

By STAFF CORRESPONDENT

PITTSBURGH, Pa., Aug. 21. — Two additional tests were completed in Lost Run Pool, Clay district, Ritchie County, West Virginia, one a fair producer. The Richards Farm Oil Co. completed a second test on the Frank R. Ball farm in the Injun sand at a depth of 2,008 feet and it flowed as soon as the formation was tapped. It made 100 bbls. the first day, and has settled down to about 35 bbls. a day. This well is about 89 feet south of Boehm and Strickler's No. 2, which is still flowing in excess of 250 bbls. a day, and as the Injun sand streak diverges east, appears on the western edge of the pool.

In the same pool, Elder and Louden drilled a test on the S. E. Satterfield farm through the Injun sand which was dry. There was a showing of oil in the Keener sand which may produce about 2 bbls. a day. This location is about 1,800 feet southwest of Boehm and Strickler's No. 1 and close to the test on the Michael Moran farm which was dry.

In this pool, Richards Farm Oil Co. has made a location on the Michael Moran farm which extends sufficiently east to include the possibility of being within the limits of the pool. The dry test was on its western boundary. Hinton Farm Oil Co. is down 1,450 feet in No. 3 on the L. E. Robinson farm. Frank Finley and others have No. 3 drilling on the Boehm and Strickler farm in direct line of the producers.

While still too early to expect much increase in eastern production from the recently stimulated activity, total production continues under the proscribed ratable and below the present refinery demand. Total runs appear unchanged from a month ago.

Eleven wells and one dry hole completed the total of the new work for the week in the eastern fields. Four were producers with an initial daily production of 48 bbls.

SOUTHEAST OHIO

The best test for the week in Southeast Ohio was in Section 17, Perry Township, Coshocton County. There, the Preston Oil Co. completed a test on the Cary D. Harris farm in the Clinton sand at 3,196 feet. The well has not been shot but it is estimated good for about 10 bbls. a day, settled production, after shot.

In Belmont County, Frank S. King and others completed a test on the Charles McLaughlin farm, SE Section 26, Somerset Township. It was drilled in the Grit at a depth of 1,890 feet and is a 1-bbl. pumper after shot.

In Monroe County, two gas wells were completed. In Section 9, Franklin Township, the Sutherland Oil & Gas Co. completed a test on the W. A. Quigley farm in the Berea grit at 1,825 feet. It is rated good for 75,000 feet a day. In Section 10 of the same township, Swarthouse and McCannon completed a second test on the Bert Mallett farm in the same formation at 1,780 feet. It is showing for about 40,000 feet of gas a day.

In Meigs County, the P. & G. Oil & Gas Co. drilled a test on the County Infirmary acreage, one-half of Section 34, Salisbury Township. It was completed in the Second Berea sand at a depth of 1,533 feet and is estimated good for 70,000 feet of gas a day.

WEST VIRGINIA

The remainder of the completions in West Virginia consisted of three gas wells and one dry hole. In Calhoun County, H. B. Scott completed a test on the Beall and Wilson lease in Sherman district in the Injun sand at a depth of 1,964 feet. It will make a small gas well.

In Ritchie County, A. H. Jackson completed tests on the Addison Riddle farm in Murphy district. No. 1 was drilled in the Injun sand at a depth of 2,117 feet and is showing for about 700,000 feet a day. The second test was completed in the same formation at 2,123 feet and showed 50,000 feet a day natural which was increased to around 700,000 feet a day after shot.

On Lambs Run in Murphy district, Ritchie County, King Knob Oil Co. drilled through the Injun sand to a depth of 2,109 feet on the H. C. Allen farm. All formations proved dry and the hole is being plugged.

Drilling in West Virginia

New operations are noticeably increasing in West Virginia in all sections, oil and gas. In Calhoun County, several new locations have been made. In Washington district, Everett Starcher and others have made a location on the Anderson Cottrell farm. In this district, Grant Fowler is down 1,320 feet on the Orval Postlethwait farm. In Sherman district, F. F. McIntosh has made four locations on the O. S. Bennett farm. C. A. Jarvis and others have a location for a second test on the Ida M. Whipkey farm. C. B. Lewis and others are building a rig for a second test on the W. T. Kelly farm. Creed Barker and others are down 450 feet on I. B. Fowler farm. In Sheridan district, W. J. and O. L. Yoke are rigging up to drill No. 3 on the A. T. Yoke farm. Cain and Rothwell are down 1,790 feet on the Lee Roy Jones farm. Ira Haught and others are about on top of the Injun sand in No. 3 on the Alva Elder farm.

In Roane County the Big Four Drilling Co. is down 1,675 feet on the W. S. Fouty and others lease in Curtis district. In Spencer district, Bartlett and Mac are building a rig on the Webb and Mace farm, and Hildreth Gas Co. has completed a rig on the Roy Hildreth farm. In Gilmer County, Clem Morris and others are drilling at 1,420 feet on the Cora B. Gainer farm in DeKalb district.

Ritchie County has new activity. In Murphy district, Uhl and Bailey have made a location on the J. V. Warner farm. Southern Oil Co. is drilling deeper its No. 4 on the Alvin Wince farm, and is fishing at 1,790 feet. In Grant district, Anderson and Smith have made a location on the Mary M. Ayers farm. In Murphy district, the following work is noted: W. H. Bickle has a rig on the Jennings Fox farm; Lewis and Litten Gas Co. has rigged up ready to drill on the Conley heirs farm; Clem S. Morris is drilling at 750 feet on the Hiram Williams heirs' farm; Deem and Overton are down 1,550 feet and drilling on the R. A.

Overton farm, and J. F. Deem and others have a location for a second test on the Mansfield Haught farm.

In Marion County, Victor Oil & Gas Co. has resumed drilling on the Charles H. Freeland farm in Mannington district and has reached 2,320 feet. Snodgrass and others are fishing in their No. 1 on the Absalom Holbert farm which is being drilled deeper and is at 2,895 feet.

In Cabell County, Oraann Gas Co. is drilling at 800 feet on the George H. Midkiff farm in McComas district. In the same district, West Virginia Gas Corp. has reached 1,540 feet on the H. L. Day farm. In Guyandotte district, operations have dwindled. Petry and Borders are shut down at 2,000 feet for casing on the Shelby Johnson farm.

In Kanawha County, Godfrey L. Cabot is down 1,895 feet in No. 41 on the A. H. Huntington lease in Cabin Creek district. In Elk district, Marshall and Price have reached 1,300 feet in No. 9 on the Goshorn and others lease.

In Boone County, Pure Oil Co. has two wells drilling. Its No. 60 on the Federal Coal Co. tract is drilling at 1,535 feet, and its test on the A. M. Prichard farm is down 1,877 feet. Both are in Sherman district. This company has a rig standing for No. 62 on the Federal Coal Co. tract, and one for No. 256 on the Williams Coal Co. lease.

In Clay County, Godfrey L. Cabot is down 2,635 feet on the Bell Creek Land Co. property in Pleasant district. In Henry district, Davenport, Davis & Co. have reached 1,352 feet on the M. S. Price and Holt heirs lease.

In Monongalia County, Chartiers Oil Co. has reached 1,930 feet on the Thomas Williams heirs farm in Clay district.

SOUTHWEST PENNSYLVANIA

One well was completed in Southwest Pennsylvania. J. H. Wilson completed a second test on the J. H. Clarke farm near Prosperity, South Franklin Township, Washington County. It was completed in the Gas sand at 1,280 feet and is showing for about 100,000 feet a day.

In this township, E. H. and J. B. Tague are drilling No. 5 on the Adaline D. McKennan farm at 550 feet and, extending their Dunkard sand operations, have a machine set for No. 6 on the same tract. In East Findley Township, the test of Hallam and Lewis and others on the H. D. Ely farm has made good progress. The depth is 550 feet.

In Amwell Township, Washington County, Jess Moore and others reached 2,670 feet on the John Parker farm and shut down to case to the bottom of the Fourth sand. On the Leroy VanKirk farm, Union Gasoline & Oil Co. is down 760 feet and is running three tours.

In Greene County, Earhart & Co. are down 400 feet on the W. J. Holmes farm, Springhill Township. Convex Glass Co. has reached 1,140 feet on the Samuel Morse farm, Dunkard Township. Carnegie Natural Gas Co. is drilling at 1,925 feet in deepening its second test on the Leasure Cowell farm in Perry Township.

In Fayette County, Carnegie Natural Gas Co. is drilling at 2,140 feet on the H. H. Wells farm in Jefferson Township.

Central West Fields

(Continued from Preceding Page)

Permits were also issued to William F. Brown for No. 1, 300 feet from the north and west property line of the C. F. Johnson farm, NW NW NW, Section 21, Pine River Township, Gratiot County; to William F. Brown for No. 1, 300 feet from the north line and 300 feet from the west property line of the Edith Riopelle farm, NW NW SW Section 10, Mills Township, Ogemaw County; to Edward Christman for No. 1, 300 feet from the north line and 300 feet from the west property line of the Ogemaw Country Club land, NW NW SW Section 20, West Branch Township, Ogemaw County; to Edward Christman for No. 1, 300 feet from the north line and 300 feet from the east property line of the Ogemaw Coal Co., NE NE NE Section 36, Ogemaw Township, Ogemaw County; to Mellon-Pollock Oil Co. for No. 1, 330 feet from the north line and 330 feet from the east property line of the Icem C. Slentz farm, NE SW SW Section 23, Vernon Township, Isabella County; to Pure Oil Co. for No. 2, 330 feet from the south line and 885 feet from the east property line of the Charles Hill farm, SE SE NE Section 18, Porter Township, Midland County; for No. 1, 330 feet from the south line and 330 feet from the west property line of the E. C. Crandell farm, NW NW Section 16, same township; for No. 3, 330 feet from the south line and 330 feet from the west property line of the C. L. Baxter farm, SW SE Section 15, same township; for No. 2, 300 feet from the north line and 300 feet from the west property line of the J. H. Miller farm, SE SW NW Section 17, same township; to J. V. Wicklund for No. 1, 330 feet from the south line and 330 feet from the west property line of the William M. Marivelles and others' farm, SW SW NE Section 23, Vernon Township, Isabella County; to Mellon-Pollock Oil Co. and others for No. 2, 330 feet from the north line and 330 feet from the east property line of the George S. House farm, NW Section 26, same township; for No. 1, 1,650 feet from the south and 990 feet from the east line of quarter Section 23, on the Frederick Verette farm; for No. 2, 330 feet from the north line and 330 feet from the east property line of the John Stough farm, SW SE Section 23, same township.

Well Abandoned

Strange and Flynn's test on the Curry farm, SE SW SE Section 5, Vernon Township, Isabella County, has been abandoned as a dry hole at 3,960 feet. There was a light showing of oil and gas in the upper Dundee formation.

CENTRAL WEST

Crane Township, Wyandot County, Ohio, leads in development work in the Lima Field, with seven wells drilling and one rig up. Ferdell and others are drilling No. 1 on the Mary E. Sampson farm, Section 20, Crane Township, Wyandot County. Jones & Coyle are drilling No. 4 on the Margaret Brillhardt farm, Section 28, and have a rig for No. 5 on the same farm. Pitt Oil & Gas Co. is drilling on the Joseph T. Brown farm, Section 33, same township. Same company is drilling on the A. E. Myers farm, Section 3, same township. Upper Sandusky Oil & Gas Co. is drilling on the Adolph Veith farm, Section 28, same township. R. W. Kirk and others are drilling No. 2 on the Elmer E. Moser farm, Section 12, Ridge Township, same county, and Newcomer and others are at 1,983 feet on the Albert Reber farm, Section 1, Pitt Township, same county, which may not make a commercial producer, already being some depth into the Trenton lime formation.

Bert Sheldon is drilling No. 2 on the Ida Werderts farm, Section 30, Blanchard Township, Hardin County.

In the Tiffin Field of Seneca County, Murphy and Sons are drilling No. 3 on the P. and C. Fray farm, Section 6, Pleasants Township. Tiffin Industrial Gas Co. is drilling No. 2 on the Charles S. Yingling farm, Section 6, Clinton Township. J. L. Barrett and others are working on No. 1 on the T. N. Einsel farm, Section 1, Hopewell Township, and R. E. Greene is drilling No. 3 on the T. C. and B. G. Shaull farm, Section 30, Liberty Township, same county.

CENTRAL OHIO

The Central Ohio Field is the most active division of the Central West Field reporting eight completions, three being light oil wells, two dry holes and three gas wells.

In Ashland County, Stewart and others drilled No. 7 on the David Horn farm. Section 4, Lake Township, and after testing gave it up as a dry hole.

In Medina County, Litchfield Township, Colb and others' No. 5 on the L. A. Severcool farm, Lot 1, produced an initial of 20 bbls. from the Berea and from 206 to 314 feet. Preston Oil Co. is preparing to spud No. 5-1,528 on the L. A. Severcool farm, Lot 4, Chatham Township, same county.

In Stark County the Hoover Development Co. drilled in a nice gas well in No. 2 on the Hoover property, Section 18, Plain Township, in the Clinton lime at 4,532-66 feet. East Ohio Gas Co. brought in a good gas well in No. 1 on the T. and H. McDowell farm, Section 16, same township, at 4,510-41 feet. Ohio Fuel Gas Co. brought in a gas well in No. 1-5,724 on the Howard Hoverland farm, Section 10, Jackson Township, same county.

In Belmont County, King and Tanners' No. 2 on the Charles McLaughlin farm, Section 36, Somerset Township, produced but 2 bbls. from the Berea sand at 1,809 feet, and Frank Strange's test on the T. A. and W. A. Walker farm, Section 20, Union Township, same county, found gas in the Maxon sand at from 1,026-46 feet along with a heavy volume of water, drilled to the Injun sand at 1,147 feet and has been abandoned.

In Guernsey County, C. C. Wharton's No. 3 on the H. H. and May Turner farm, Section 10, Westland Township, was a very light gas well in the Maxburg sand at 361 feet.

KENTUCKY

The Kentucky Field reported only one completion, Tracey Supply Co. and others' No. 6, 450 feet from the north line and 150 feet from the west line of the J. W. Richardson farm, in the Cane Run Pool of Daviess County, which was dry at a total depth of 915 feet.

In Hart County, Legrande Field, Hillside Oil Producing Co., and Anna K. Wilson Co.'s No. 11 on the W. B. Perkins farm, is reported to have struck a heavy dose of salt water at 2,244 feet.

INDIANA-ILLINOIS

No completions were reported in either the Indiana or Illinois Fields, although a number of wells are under way in both fields, some being shut down and others going ahead, but slowly.

Gulf Coast Fields

(Continued from Page 47)

When the Plymouth well was drilled the operators figured the structure lay to the west, hence the Humble and Coyle-Concord No. 1 Powell being 1,300 feet northwest. Taking into consideration deviation of the hole, the latter test checks 15 feet lower than the Plymouth well, which almost definitely establishes the structure as being to the east with the Plymouth well being a west edge well instead of an east edge well as originally figured.

The presence of a good sand body around the 6,200-foot depth has been established, as indicated by the Plymouth well which had 31 feet of sand, and Humble-Coyle-Concord's Powell test, which had 32 feet, and also by Humble and Coyle-Concord's No. 1 McLane which had approximately 42 feet of sand. The latter was approximately a mile to the northwest of Coyle-Concord's discovery wet gasser, which is producing from a sand at 4,052 feet while the Ream and Powell tests are about a mile in the opposite direction from the gasser discovery. The McLane well, which was about 40 feet lower on the structure than the Plymouth Ream well, also got salt water.

The Mykawa Field in Harris County was extended 2,000 feet to the east by Frederick and Coffelt's No. 1 Irwin in the William Lovett Survey. It made 400 bbls. of oil a day from a total depth of 4,162 feet. The first wells to be completed on the Mykawa Dome were to the Southwest and found their pay at approximately 4,800 feet. The new producer is the first of a series of tests to be drilled by those operators in connection with a recent trade with Cockburn Oil Corp.

Gulf Production Co.'s No. 36 Moore, in the Mark Smith Survey in the Orchard Field in Fort Bend County, extended production in the field making 1,160 bbls. of pipe line oil a day. It is producing through a three-eighths inch choke from a total depth of 3,651 feet. The Orchard Dome is a proven area controlled by the Gulf Production Co. and is being developed in an orderly and conservative manner.

Routine Work at Conroe

The Conroe Field in Montgomery County is now being developed in a routine manner as most of the active work is in proven areas. The daily production continues to show an increase and for the week ending August 19 it is estimated at 90,000 bbls. daily. The total number of wells completed in the same week was 10. These wells averaged from 21 to 90 bbls. an hour of pipe line oil.

Hamill and Smith started drilling in their test on the R. G. Hamlett Survey in the south extension area of Conroe. It is located around a half mile to the south from the other production.

In the Lost Lake Field in Chambers County the Pure Oil Co.'s No. 18 Mayes in the E. H. R. Wallis Survey, was abandoned in cap rock at a total depth of 3,674 feet.

Rio Bravo Oil Co. abandoned its No. 1 discovery well in the Darrow Field in Ascension Parish, Louisiana. The well was first completed more than a year ago at 4,035 feet where it made 490 bbls. of oil in 10 hours through a one-quarter inch choke. It was then shut in for lack of outlet and when later opened up it was found to be making considerable water and the owners decided to drill deeper. The present total depth of the well is 4,900 feet in salt. The same company has completed another well in the Darrow Field which is making around 40 bbls. of oil a day.

Considerable new work is under way in coastal Louisiana as reflected by the new wildcat operations that have been announced and by the resumption of work on wildcat tests that have been shut down. One of the interesting wildcat tests that started operations during the week is the Barnsdall Oil Co.'s No. 1 Harang, in Section 67-17s-20e, in La-Fourche Parish. Barnsdall Oil Co. also has made a location for a test about a half mile east of the Iowa Field in Jefferson Davis Parish, Louisiana, in Section 7-9s-6w.

The Texas Co. has made location and has derrick up for a wildcat 7 miles south of the Refugio Field, Refugio County, Texas. The location is on the Rooke farm in the J. M. Aldrette Survey. It is on a block along the same trend as the Saxet, Refugio, Fox, Greta, O'Connor, McFaddin and Keeran Fields. Surface indications are identical with those of the other fields and which are believed characteristic of all fields along the trend.

Gulf Production Co.'s No. 4 Keeran, Keeran Field, tested salt water in sand at 5,430-50 feet and is drilling deeper.

T. N. RAY DIES

Thomas Newon Ray, 84 years old, who had been in the oil business in Oklahoma for more than 30 years as lease owner and pumper, died at his home in Owasso after being ill a month.

LEGAL

Notice of sale of oil and gas lease, Department of the Interior, General Land Office, Washington. Notice is given that the following described lands are offered to the qualified bidder of the highest amount offered per acre as a bonus for the privilege of leasing the land under Sec. 17 of the leasing act of February 25, 1920 (41 Stat. 437), at the royalty rate fixed in the standard lease form, copy of which may be procured from the Commissioner of the General Land Office: T. 28 N., R. 16 W., N.M., Sec. 29, Lot 3 (SW¼ NE¼), 54.83 acres; Sec. 32, Lot 2 (NW¼ NE¼), 54.40 acres. The successful bidder, when so notified, will be required to deposit cash or certified check on a solvent bank for one-fourth of the bid and pay the remaining three-fourths upon receipt of lease for execution. The successful bidder also shall agree in writing to the stipulations contained in the "Regulations Governing the Sale of Lands under Sec. 17 of the Act of February 25, 1920," approved September 22, 1933, copy of which may be procured from the oil and gas supervisor, Geological Survey, Federal Building, Tulsa, Oklahoma, or the Commissioner of the General Land Office, Washton, D. C. Sealed bids will be received in the office of the Secretary of the Interior up to 10:00 a.m., September 16, 1933. Bidders are warned against violation of the provisions of Sec. 59, U. S. Criminal Code, approved March 4, 1909, prohibiting any unlawful combination or intimidation of bidders. The right is reserved to reject any and all bids in the discretion of the Secretary of the Interior. (Signed) Fred W. Johnson, Commissioner.

Acid Doubles the Production of Lea Pool Well; Two Colorado Tests Ready for Completion

By TOLBERT R. INGRAM
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Aug. 21.—The Texas Co.'s No. 3-A Lynch, in the Lea Pool in New Mexico, doubled its production after being treated with acid and will be given a second treatment. Two Stanolind Oil & Gas Co. locations in the Hobbs Pool were abandoned and no wells are drilling in that field. There were no completions and now new locations in that State.

Two important tests in Moffat County, Colorado, have cemented pipe on top of the sands and are drilling in. The Continental Oil Co.'s wildcat on the Tercio Dome in Las Animas County is being abandoned. One new operation in Routt County is getting under way. The California Co.'s deep well on the Rangely Dome is pumping 100 bbls. per day.

In Wyoming two small pumpers were completed in the Osage Field. A test to the granite in Crook County is spudding.

In Montana the Montana Power Gas Co.'s No. 1 Brown was completed in the Cut Bank Field for 7,500,000 feet of gas per day, and the Dakota-Montana Oil Co.'s No. 1 Matson swabbed 90 bbls. per day. There were no new locations.

NEW MEXICO

Lea County

The Texas Co.'s No. 3-A Lynch, C NW NE Section 34-20-34, in the Lea area, responded to an acid treatment with a 100 per cent increase in production. At a total depth of 3,745 feet it swabbed an average of 100 bbls. of oil and 30 bbls. of water per day. It then was shut down and treated with 250 gallons of muriatic acid and 120 bbls. of oil, applied with pressure built up by shutting in the well. It built up a pressure of 800 pounds, which gradually decreased to 500 pounds. After being allowed to stand the well was opened up and given a swabbing test. It made 201 bbls. of oil and 25 bbls. of water daily. It will be given another treatment in an effort further to increase the production.

The only other active operation in the Lea area is Cranfill & Reynolds' No. 4 State, C Lot 10, Section 2-21-33, which at a total depth of 1,820 feet, ripped the 10-inch at 850 feet and recemented with 40 sacks.

In the Hobbs Pool the Stanolind Oil & Gas Co.'s No. 11 Capps, C NE SW Section 3-19-38, and No. 26 Byers, C SE NW of the same section, are abandoned locations after completing cellars. There are no wells drilling in the pool at this time.

In the Jal area, E. B. Guess has disposed of a substantial interest in his No. 1 Conditt, C SW SW Section 12-25-36, to the Western Natural Resources Co., Ltd., and the Anton Chico Development Co., and the operation hereafter will be carried as Western-Anton No. 1 Conditt. It is drilling at 1,250 feet and expects to set the gas string at around 2,850 feet this week. The Anton Chico Co. is drilling a rotary test in the NE cor. SW Section 20-9n-17, Guadalupe County, and is changing over to rotary tools at 2,587 feet. The Western Natural Resources Co. is drilling a wildcat on the San Clemente grant in the SW cor. NE Section 5-6n-1e, Valencia County. Guess has the drilling contract for both of these wells.

The Continental Oil Co.'s No. 2 McCallister A-24, NW NE NE Section 24-26-36, spudded August 8 and is drilling at 160 feet in red rock. The same company's No. 2 Sholes, C NW NW Section 13-25-36, is shut down after completing cellar.

The Carter and Continental Oil Co.'s No. 1 State, C NE NE Section 28-22-35, South Eunice area, made 670 feet of hole to 2,253 feet when again it had to shut down for water. It topped the anhydrite at approximately 1,820 feet and the salt at 1,950 feet.

Eddy County

Ralph Spearow and others' No. 1 McClellan, SW NW NE Section 22-22-23, Indian Creek district, 25 miles west of Carlsbad, was last reported drilling in gray lime at 3,559 feet and had a show of sulphur gas at 3,513 feet. The Pecos Valley Drilling Co.'s No. 1 McIntyre, NW NW Section 27-23-25, Dark Canon district, 12 miles south of the No. 1 McClellan, is drilling at 285 feet in white lime.

In the Artesia area, Flynn, Welch & Yates' No. 66 State, NW SE SE Section 30-18-28, is drilling at 1,439 feet in lime and anhydrite, and Van P. Welch and others' No. 1 State, NW NE SE Section 22-17-28, is shut down at 373 feet in black shale.

The Grayburg Oil Co.'s No. 4 Burch, C SE NW Section 19-17-30, Maljamar area, is drilling at 1,360 feet in anhydrite.

Bernalillo County

The Norrins Realty Co., Inc.'s No. 2 Pajarito grant, NW cor. NE Section 29-9n-1e, southwest of Albuquerque, shut down at 386 feet after cementing the 10-inch on bottom.

Santa Fe County

The Kelsey Clients Development Estate's No. 2 State, C NW Section 22-10n-10e, Crow Butte district, is shut down at 835 feet in granitic sand.

Torrance County

J. E. Williams' No. 1 Ashcraft, NE NW SE Section 22-4n-12e, southwest of Vaughn, is shut down at 400 feet in clay.

Urges Tax Payments

The New Mexico Tax Commission is urging operators to pay the ad valorem tax on gross oil output under the legislative act of 1925 under protest in order to save themselves the penalties in the

(Continued on Next Page)

Decrease in Turner Valley Deliveries in July Attributed to the Extremely Hot Weather

By VICTOR LAURISTON
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Aug. 19.—Deliveries to Calgary refineries from the Turner Valley Field in July totaled 63,000 bbls., compared with 67,072 bbls. in June. Imperial Oil Refineries, Ltd., took 55,664 bbls. in July, including 17,098 bbls. of crude naphtha, 34,403 bbls. of discolored naphtha and 4,163 bbls. of light crude. This compared with June receipts of 15,980 bbls. of crude naphtha, 40,616 bbls. of discolored naphtha and 4,061 bbls. of light crude, a total of 60,657 bbls. Deliveries to the Bell Refining Co. increased from 5,209 bbls. in June to 6,300 bbls. in July; while deliveries to Regal Oil & Refining Co. dropped from 1,206 bbls. in June to 1,036 bbls. in July.

Oil operators attribute the decrease in July production to the extremely hot July weather, which resulted in serious evaporation. The Imperial Oil, Ltd., absorption plant contributed an average of 571 bbls. a day. The July, 1933, total of 63,000 bbls. delivered compares with 57,141 bbls. in July, 1932.

North Turner Valley

In the North Turner Valley Field, Model Oils' No. 2, LSD 16, Section 22-20-3w5, is reported drilling below 6,342 feet, more than 820 feet in the deep lime. No additional production has been reported since the porous sand encountered about 200 feet in the lime, where a gas flow, now estimated 3,100,000 feet a day, was encountered. This horizon shows a fair quantity of 55 degrees light amber colored crude, and may be given a shot if the lower lime fails to yield production.

Central Turner Valley

In the Central Turner Valley Field, McLeod Oil Co.'s No. 1, LSD 16, Section 1-20-3w5, has been brought back into production, making 22 bbls. a day from the deep lime. The well, one of the oldest deep lime producers in the field, may be deepened.

New McDougall-Segur Oil Co.'s No. 6, LSD 11, Section 12-20-3w5, is on the pump and testing production from the light crude horizons. The hole bottoms around 3,190 feet and preliminary tests indicated a probable flush production of 95 bbls. a day.

Mercury Tract

In the Mercury area, South Turner Valley, Miracle Oils' No. 2, LSD 16, Section 5-19-2w5, standing cemented in the top of the lime at 5,971 feet, is expected to be the next crude naphtha producer in South Turner Valley.

Rickert Structure

On the Rickert structure, Paramount Oils' No. 1, is unofficially reported drilling in the Madison limestone below 3,400 feet. Location is in LSD 2, Section 28-18-4w5, some miles west of the Mar-Jon area of South Turner Valley and on a parallel fold. The test has apparently got the lime considerably higher than it is encountered in most sections of the Turner Valley Field. This horizon has been the objective of a number of tests on structures in the foothills, and the lime has actually been reached in the Highwood, Moose Dome, and Morley Reserve structures. None of these, however, yielded commercial production, though traces of gas and light crude oil were met. The Paramount test has not gone deep enough into the lime to give conclusive results.

Reserve Dome Test

On the Alberta end of the international Reserve Dome structure, Rialto Oils' No. 1, LSD 4, Section 15-1-8w4, has spudded in, with Union Drilling Co. of Calgary handling the contract. The test is backed by A. H. Mayland and associates of Calgary who last year drilled Mayland Southern's No. 1 a mile to the southwest of the new test. The Mayland Southern well got gas in several horizons but failed to get commercial oil production.

Twin River Test

On the Twin River structure south of Lethbridge, Nordon-Roney's No. 2 Twin River, LSD 2, Section 2-2-20w4, caught fire from a spark, seriously damaging the rig, drill house and boilers. The outfit will be rebuilt.

The well, a joint test by Cad A. Roney of Los Angeles and Nordon Corp., spudded in last October and got the Madison limestone at 3,899 feet, where gas was struck. The top of the oil sand was at 3,912 feet and the hole bottomed at 3,940 feet. The gas flow is estimated better than 5,000,000 feet a day with shut-in pressure unofficially reported around 1,200 pounds. No official estimate of crude oil production has been given out, pending completion of a 30-day production test.

Skiff Field

In the Skiff Field, southern Alberta, additional details have been announced of the development undertaken by Devenish Petroleums, Ltd., of Calgary. Devenish Petroleums' No. 5 has been located in LSD 4, Section 27-5-14w4, offsetting Nos. 1 and 3 producers. These wells have a reputed potential production of 100 bbls. a day asphaltic crude around 22 gravity. The plans include the drilling of three additional wells. A seismographic survey will be made of the Devenish holdings, aggregating between 60,000 and 70,000 acres. It is also planned to eventually install a refinery unit, to cost about $100,000, to produce gasoline, tractor fuel and road oils. Devenish's No. 5 will spud in early in September.

Comrey Structure

In the Comrey structure, D. A. MacDonald's No. 1, Section 9-1-5w4, has derrick up and is installing machinery. Test is expected to spud in early in September. Location is on the Gilchrist lease south of Manyberries, on acreage of Imperial Oil, Ltd.

The test has started the first leasing

rush in Alberta in a couple of years, with filing on between 6,000 and 7,000 acres adjacent to the original Imperial holdings. Several of the larger independent companies are reported to have leased acreage.

Red Coulee Field

In the Montana end of the Red Coulee Field, Monalta Oil Co.'s No. 5 Buckley, SW Section 1-37n-4w, is reported working on derrick. Contract for the test has been let to John Finn, who is bringing a rotary outfit from California.

Wainwright Field

In the Wainwright Field, east central Alberta, D. W. Beaubier of Brandon, Manitoba, is reported preparing for further drilling on his acreage.

British Columbia Operations

In the Sage Creek area, southeastern British Columbia, Columbia Oils' No. 1 is reported drilling. Crow's Nest-Majestic's No. 1 has spudded in and is drilling below 80 feet.

Canadian-Kootenai Oil Co.'s No. 1 in the Flathead Valley north of Glacier Park is planning to carry its test to below 3,000 feet. The location is 3 miles west of Crow's Nest-Glacier Oil Co.'s No. 1, in the North Fork section of the Sage Creek area. G. K. Wallingford of Portland, Ore., is manager.

Plympton Deep Test

An important deep test has been started in Plympton Township, Lambton County, Ontario, where British Petroleum Co.'s No. 1, Lot 22, Concession 9, recently spudded in. Location is on the Archie McKinlay farm near Aberarder, some distance north of the Plympton shallow oil field, and not far south of Lake Huron. The test is reported down about 500 feet. The company is headed by Dr. E. B. Blain of Hamilton. Potential oil horizons include the Onondaga, which is productive in the Plympton shallow field, and the Niagara, Clinton and Trenton lime. It is planned to drill to at least 2,000 feet.

Tests in Kent County

In the Olga Field, Raleigh Township, Kent County, Olga Oil & Gas Co.'s No. 6, Larke farm, Concession 9, finished at 1,650 feet after striking a small show of gas around 1,600 feet. The outfit is being moved to the Earl Flook farm, Lot 19, Concession 8, Raleigh Township, where No. 7 will be drilled.

Tilbury Field

In the Tilbury Field, Kent County, Salina Oil & Gas Co.'s No. 3, Hope farm, Lot 10, Concession 13, Tilbury East Township, has been finished. The test got gas at 1,224, 1,245, 1,274, 1,324 and 1,333 feet, with an estimated flow of 100,000 feet a day. It was shot, the flow immediately after being around 1,200,000 feet and later settling to 350,000 feet a day. Production is being taken by the Southern Ontario Gas Co. The outfit is being moved to the Gifford farm about 1,200 feet east of No. 3, where Salina's No. 4 will be drilled.

Chatham Gore Test

A wildcat of some importance is being drilled by Dr. Luke Smith of Chatham in Lot 23, Concession 2, Chatham Gore. It is reported down 1,100 feet and drilling. The location is east of Wallaceburg along the course of the Sydenham River in an area previously untested. It is planned to drill at least 2,000 feet.

Petrol Gasser

On the Six Nations Indian Reserve, near Brantford, Petrol Oil & Gas Co.'s No. 3 has been brought into production as a shallow gasser with flow of 68,000 feet a day and 240 pounds rock pressure. The company plans to continue its drilling in the immediate vicinity, and later to extend its pipe line facilities to handle the gas, which will be taken by the Dominion Natural Gas Co. Extensive drilling has been done in recent years on the Six Nations Reserve by Petrol Oil & Gas Co. and Ajax Oil & Gas Co. and a considerable aggregate gas production has been secured in shallow wells.

Rocky Mountain Area

(Continued from Preceding Page)

event the courts hold that the law is valid. This law and the act of 1921 are in litigation in the Federal courts and some of the operators have withheld payment of taxes awaiting a court decision as to the validity of the acts. The 4-cent severance tax law also is held up under a referendum.

COLORADO

Moffat County

The Mountain Fuel Supply Co.'s No. 2 Florence Wilson, C NE NE Section 22-12n-100, Hiawatha Dome, the most important test drilling in Colorado at the present time, is drilling out cement after setting the 8⅝-inch at 4,964 feet preliminary to testing a 50-foot sand which showed gas and traces of oil in the cores. This sand is believed to be in the top of the Mesa Verde formation. Total depth is 5,063 feet. The hole is believed to be about 60 feet into the Mesa Verde and above that formation it cut several sands showing oil and gas saturation.

The test is located one-fourth of a mile northeast of No. 1 Wilson, the discovery well, which came in several years ago at 2,200 feet for 58,000,000 feet of gas per day and which disclosed sufficient gas reserves to warrant the construction of a major pipe line into Utah. No. 2 Wilson was started with rotary outfit as a deep test to explore the lower horizons about which little can be determined by surface geology. There are strong indications that Hiawatha may develop into an important oil field as No. 1 Wilson has been showing small quantities of oil for some time.

The Mountain Fuel Supply Co.'s No. 1 Wheeler, SE NW NW Section 30-12-100, West Hiawatha, or Bartram Dome, is drilling at 1,035 feet, and the Texas Co.'s No. 1 Van Schaick, SW cor. Section 19-12-100, has derrick completed.

The Mountain Fuel Supply Co.'s No. 1 Hatch, SE NW SW Section 9-11n-101, Sugarloaf district, is changing over to heavier rotary equipment to go deeper at 3,519 feet, total depth.

The Rocky Mountain Gas Co.'s No. 1 Eberle, SE SW SE Section 9-6n-91, Craig Dome, 1,500 feet southwest of No. 1 Bogenschultz, a gas well and the only well drilled to completion on the structure, is drilling out cement. The 8⅝-inch was cemented on top of the objective sand at 2,768 feet with 150 sacks. A fault lies between this well and the discovery. This fault was supposed to deviate from the vertical and it was expected that the Eberle well would drill through it and reach the objective on the same side as the discovery well.

The Texas Co.'s No. 1 Iles Investment, SE NW Section 23-4n-92, Iles Dome, is bottomed at 2,050 feet and is straightening hole at 1,390 feet. The hole was cemented back with 300 sacks.

Routt County

The Western Colorado Oil Corp.'s No. 1 Rapson, SW NW SE Section 31-7n-86, northwest of Tow Creek, in which Wells & Desten, of California, are interested, is moving in materials. Ike Mosher has the contract and rig is being moved from Walden. The location is three-fourths of a mile to the northwest of the Carstarphen producers of the Texas Co. and up against an igneous intrusion. The test will be an interesting one as some of the wells drilled near this intrusion by the Texas Co. have been good producers. The Texas Co. has the offset acreage on the west.

Rio Blanco County

The California Co.'s No. 1 California-Raven, C NW SE Section 30-2n-102, Rangely Dome, which was drilled to 7,173 feet with rotary and plugged back to 6,315 feet to test about 600 feet of saturated Weber formation, is reported un-

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officially to be pumping around 100 bbls. per day. This is a disappointment as the quantity was not increased appreciably by the last shots aggregating 1,000 quarts. At this depth the well is not promising for a commercial producer.

Montezuma County

Ed Wiley's No. 1, NW NE NE Section 4-25-14w, Mancos Creek district, an operation not heretofore reported, is drilling at 406 feet in the Mancos shale.

Fremont County

The Cherry Creek Placer Co.'s No. 1 Lucas, SW cor. NE Section 32-18-69, Florence district, is drilling at 2,390 feet, and the Waterville Oil Co.'s No. 1 State, SE cor. NW Section 16-18-69, Phantom Canon, is drilling at 2,265 feet in red sandy shale. The 5⅛-inch is at 2,241 feet. This is a test to the Pennsylvanian.

Huerfano County

S. W. Pressey's No. 1 Ojo, SW NE Section 10-29-69, Oak View district, is shut down at 1,478 feet and moving in the 8¼-inch.

Las Animas County

The Continental Oil Co.'s No. 1 Maxwell grant, NE NW NE Section 29-34-68, Tercio Dome, is being abandoned at 1,360 feet. It topped the Dakota at 1,344 feet and encountered water. It was planned to test the Lakota before abandoning the hole, but a bad fishing job developed.

Prowers County

The Shastatex Oil & Gas Co.'s No. 1 Lotus, NW NE NE Section 15-23-46, Lamar district, is drilling at 1,920 feet after recovering lost bailer.

WYOMING

The Wyoming State Board of Equalization has been hearing protests in Cheyenne on its order of June 11 requiring all operators in the State to furnish data as to production, prices of crude and gasoline, disposition of same and other facts as to their operations in the State for the past five years. Operators protesting against the order argued that the board had no right to require the data and that it was virtually impossible to supply the detail information. The board announced that it would make its decision known September 1. It is possible that the inquiry Wyoming is conducting as to gasoline prices will be delayed until the oil industry's code is in effect.

The Consolidated Oil Corp. filed a petition in equity in the Federal District Court at Cheyenne recently for an order requiring the receivers of the Producers & Refiners Corp. to sell the company's assets under the receivership. The court heard protests from two groups of security holders who contend that if the sale were delayed for a reasonable time the properties, including refineries and pipe lines, would bring around $28,000,000 as against the $16,000,000 present valuation of the receivers.

Weston County

Two completions were reported in the Osage Field. The Wyoming Oil & Gas Co.'s No. 19, SE NW SE Section 19-46-63, was estimated at 8 bbls. per day on the pump from sand at 1,376-84 feet, and Albert Jones' No. 4, C SW NE Section 21-46-64, was estimated at 10 bbls. on the pump from sand at 415-17 feet.

The Federal Oil Co.'s No. 5, SE cor. Section 15-46-64, is rigging up, and the Riggs Oil Co.'s No. 3, SE NE Section 16-46-64, is drilling at 1,500 feet. The Chadron-Osage Oil Co.'s No. 22, NE SW Section 14-46-64, is waiting after cementing the 8¼-inch at 800 feet, and its No. 23, NW NE SW Section 14-46-64, is spudding.

The LeFaivre Oil Syndicate's No. 1 Martin, NW SE Section 29-45-68, Buck Creek, is drilling at 1,900 feet and carrying the 8¼-inch.

Crook County

Dr. B. R. Kinter and others' No. 1 Rockford-Wyoming, CNL NE SE Section 13-52-62, Rocky Ford district, spudded August 8 and set the 12½-inch at 90 feet. This is a test to the granite in the Rocky Ford Field where a number of shallow wells capable of making around 1 bbl. each per day were drilled several years ago. The Northwest Gas & Oil Co.'s No. 1 Wolff, NW cor. Section 6-54-60, Oak Creek, is indefinitely suspended. Rig has been moved away. Last February it was reported fishing at 1,700 feet.

Niobrara County

J. M. Huber Corp.'s No. 2 Argo, NE SE SW Section 27-36-65, Lance Creek, being deepened from 3,565 feet to the Lakota, set the 4½-inch at 3,555 feet.

Converse County

The Continental Oil Co.'s No. 30 Glenrock Sheep, SW SE SE Section 4-33-76, a test to the Sundance in the Big Muddy, which has been standing for several months at 4,767 feet, is plugging back to the Lakota at 4,312 feet and will test. The Sundance carried water. James A. Brady and others' No. 1 Cashner, NW NE SW Section 17-31-71, Warm Springs, is drilling at 1,110 feet in pink shale.

Carbon County

M. K. Quealy's No. 1, SE SW Section 17-25-79, a test of sands in the Pennsylvanian formation, is building rig and moving in materials. Earl W. Reeder, Inc.'s No. 1 Union Pacific, C SW SW Section 19-20-83, Overland Dome, is drilling at 2,000 feet and carrying the 10-inch at 1,900 feet.

The Mutual Oil Syndicate's No. 5 Dutton Creek, NE NW Section 12-18-78, Dutton Creek, is drilling at 500 feet, and its No. 9 Dutton Creek, NW NE Section 12-18-78, is drilling at 3,800 feet. The Ohio Oil Co.'s No. 1 Kanawha, SW NW NE Section 34-23-79, Allen Lake, is drilling out cement after setting the 4½-inch at 1,742 feet on top of a sand in the Morrison. Cores showed some gas saturation.

Hot Springs County

The Empire State Oil Co.'s No. 4 Republic, NE cor. NW Section 14-44-98, Hamilton Dome, landed the 8¼-inch at 1,570 feet to carry and is drilling ahead.

Park County

The Resolute Oil Co.'s No. 1 State, C NW SW Section 16-57-101, Badger Basin, is drilling at 1,800 feet.

Washakie County

The Bales Oil Trust's No. 2 Brome, NE NW NW Section 31-48-90, Hidden Dome, is fishing for bit at 1,631 feet on its way to the Dakota. It showed for a small well in the Frontier. The Caton Oil Trust's No. 1 Bales, C NE SE Section 30-48-90, is spudding with Armstrong rig. J. M. Thomas has the contract. D. L. McDonald and others' No. 1 Wheeler, SW cor. SE Section 30-48-90, is drilling at 1,057 feet. L. S. Keyes and others' No. 1 Bales, NE SW NW Section 31-48-90, is spudding. The Friedman Oil Co., organized in Rapid City, S. Dak., with a capital of 200,000 shares, par $1, has acquired NW SE Section 30-48-90 and NW NE Section 36-48-91, in the Hidden Dome area.

MONTANA

Carbon County

The Corbett Royalty Co.'s No. 1, SW cor. SE Section 1-6s-23, Blue Creek is cleaning out at 1,280 feet. The Montana Reserve Oil Co.'s No. 1 Crofts, SE cor. SW Section 34-6s-21, Dry Creek, is shut down at 572 feet waiting for rotary.

Glacier County

The Montana Power Co.'s No. 1 Brown, C NE Section 31-35-5w, in the gas area of the Cut Bank Field, was completed for 7,500,000 feet of gas per day at 2,720 feet, total depth. The Darling sand was cut at 2,700-19 feet and the 6⅝-inch was cemented at 2,700 feet.

The Dakota-Montana Oil Co.'s No. 1 Matson, SE NE NW Section 14-34-6w, was completed at 2,891 feet and swabbed an average of 90 bbls. per day for several days. Rods and tubing are being run.

W. M. Fulton and others' No. 1 Haggerty, NE cor. Section 16-34-6w, which extended the pool more than a mile to the west and swabbed 106 bbls. the first 24 hours, is cleaning out and swabbing. It is estimated at 75 bbls. settled.

The Alberta-Pacific Consolidated Oil Co.'s No. 2 Matson, SE NE SW Section 14-34-6w, is drilling at 2,907 feet in the lower Darling with 500 feet of oil in the hole, and will be an early completion. It topped the sand at 2,881 feet and set the 5⅛-inch at 2,882 feet. Same company's No. 2 Kiesel, SE cor. NW Section 11-34-6w, is drilling at 2,600 feet.

A. B. Cobb's No. 1 Walburger, SW cor. SE Section 35-34-6w, is drilling at 1,475 feet, and the Dakota-Montana Oil Co.'s No. 2 Haglund, Sr., NE NE Section 14-34-6w, is drilling at 410 feet. J. W. Johnson's No. 1 Ewing, C NE NE Section 3-34-6w, is drilling at 1,415 feet.

The Montana Headlight Oil Co.'s No. 1 Britton, NW SW NE Section 14-34-6w, is drilling at 1,870 feet, and its No. 1 Larson-Tarrant, C SW NE Section 12-34-6w, is drilling at 230 feet. Same company's No. 1 Williams, NW cor. NE Section 11-34-6w, showed oil at 2,785-90 feet and is plugging back to 2,767 feet to cement the 6⅝-inch before drilling in.

The Montana Power Co.'s No. 1 fee, SW cor. Section 1-35-5w, is drilling at 1,935 feet, and its No. 1 Vermont Loan & Trust, Sections 21 and 28-36-5w, is drilling at 1,725 feet.

R. C. Tarrant's No. 2 Britton, SW NW SE Section 14-34-6w, is moving in rig, and his No. 3 Haglund, Jr., C SE NE Section 13-34-6w, is drilling at 1,350 feet.

The Texas Co.'s No. 1 Fisk, C NW NE Section 14-35-6w, is drilling at 2,639 feet, and the Yukon Oil Co.'s No. 1 Krueger, C SW SW Section 14-37-5w, is drilling at 1,960 feet.

The Santa Rita Oil & Gas Co.'s 14-mile 4-inch line from the field to the company's loading racks near Cut Bank has been completed and the laying of 9 miles of gathering lines, storage tanks and construction of pumping station is under way.

Big Horn County

The Enterprise Oil Co. and Embar Drilling Co.'s No. 2 Lynde, SW cor. SE Section 21-6s-35, Lodge Grass Creek, is reported to have a show of oil in shale at 3,410 feet, 5 feet below the depth at which the Continental Oil Co. stopped drilling two years ago after encountering water in the Dakota and plugging back to 3,350 feet and turning the leases back. The hole will be continued to the Lakota.

Golden Valley County

The Golden Valley Oil Co.'s No. 1, SW SE SE Section 28-6n-22, Belmont district, is drilling by tools at 3,570 feet, total depth.

Liberty County

The Western Natural Gas Co.'s No. 2 Hicks, NW NE Section 26-3S-4e, Whitlash district, was completed for 18 bbls. at 1,739 feet. Its No. 2 Mahoney, SE cor. NE Section 23-3S-4e, is a suspended location.

SOUTH DAKOTA

The Wytex Oil & Gas Co.'s No. 2 Blanch Hamilton, SE cor. NE Section 32-8n-1e, Oak Creek, Butte County, has shut off water in the Minnelusa at 1,528 feet and is resuming.

Gulf Coast Fields and Wildcats

(Continued from Page 47)

HIGH ISLAND—GALVESTON COUNTY

Yount Lee Oil Co.'s No. 1-B Broussard & Orme, 126 ft. E of center of W line of M. Dunman Sur. ..... Drlg. hard sand 5,075 ft.

Yount Lee Oil Co.'s No. 36 Cade, N. Fitzsimmons Sur., 600 ft. from S line, 240 ft. E of No. 34 ..... Drlg. hard sand 5,210 ft.

Yount Lee Oil Co.'s No. 1-B Cade, N. Fitzsimmons Sur., 488 ft. from S line, 320 ft. from E line ..... Drlg. shale and lime 4,620 ft.

Yount Lee Oil Co.'s No. 17 Smith, M. Dunman Sur., 300 ft. SW of No. 14 ..... Sand and shale 6,135 ft.; cmtd. csg.

Yount Lee Oil Co.'s No. 18 Smith, M. Dunman Sur., 175 ft. S of No. 9 ..... Drlg. hard sand 5,575 ft.

BATSON—HARDIN COUNTY

Danciger O. & R. Co.'s No. 1 Hooks, 95 ft. S, 150 ft. W of NE cor. of Strip 13, Donoghue Sur. ..... Drlg. shale 4,900 ft.

TOMBALL—HARRIS COUNTY

Humble O. & R. Co. and Magnolia Pet. Co.'s No. 1 Bloecher, J. N. Hooper Sur. (Abst. A-375), 1,050 ft. from S line, 650 ft. from W line ..... Drlg. shale 3,384 ft.

Humble O. & R. Co. and Magnolia Pet. Co.'s No. 1 Gebhart, Wm. Perkins Sur., 1,399 ft. from N line of survey, and 1,400 ft. from W line of tract ..... Drlg. shale 2,307 ft.

Humble O. & R. Co.'s No. 1 Hendricks, 505 ft. from E line, 466 ft. from N line of 95.7-ac. tract, Wm. Hurd Sur., (Abst. 376) ..... Rig.

Humble O. & R. Co. and Magnolia Pet. Co.'s No. 1 Emil Schultz, 1,107 ft. N, 900 ft. E of SW cor. of 133.71 acres ..... Hard sand 5,566 ft.; showing oil; cmtd. 7-in. csg. 5,554 ft.

Magnolia Pet. Co. and Humble O. & R. Co.'s No. 1 Wm. Rudel (63 acres), Joseph House Sur., 350 ft. out of SW cor. of lease .... Cmtd. one string 5-in. screen and csg. 5,571 ft.; swabbing.

SARATOGA—HARDIN COUNTY

Rio Bravo Oil Co.'s No. 101-A Jordit, Jordit Sur. ..... Drlg. gumbo 1,124 ft.

ESPERSON—LIBERTY COUNTY

Cranfill-Reynolds Co.'s No. 4 Esperson (W.O.) ..... Drlg. 5,328 ft.

Cranfill-Reynolds Co.'s No. 11 Moores Bluff, Duncan Sur., 2,100 ft. from N line, 1,069 ft. from E line of 632-ac. tract ..... Drlg. 3,522 ft.

HULL—LIBERTY COUNTY

Miramar Oil Corp.'s No. 2 Phoenix Dev. Co. (25 ac.), Jesse DeVore Sur., 230 ft. S line, 250 ft. W line ... Derrick.

W. B. Flynn's No. 2 Flynn, Jesse DeVore Sur., 25 ft. due N of No. 1 ..... S.D. 528 ft.

The Texas Co.'s No. 8 Hannah (W.O.), Jesse DeVore Sur. ..... T.D. 5,133 ft.; sidetracking sandy shale 4,855 ft.

CONROE—MONTGOMERY COUNTY

Alpha Oil Co.'s No. 1 Allen, Lemuel Smith Sur., 275 ft. E line, 467 ft. N line ..... Drlg. sandy shale 3,801 ft.

Alpha Oil Co.'s No. 10 Keystone Mills, L. Smith Sur., 755 ft. NE of No. 5 ..... Rigging.

H. M. Crighton's No. 2-B South Tex. Dev. Co., T.&N. O. Sur. No. 5, center 18.50 acres ..... Drlg. shale 4,850 ft.

Feltex Oil Co.'s No. 4 Kirby-Bertrand, G. W. Wagers Sur., 340 ft. W line, 1,339 ft. S line ..... Drlg. shale 4,620 ft.

Gulf Coast Drlg. & Prod. Co.'s No. 12-A Keystone Mills, A. James Sur., 467 ft. from W line, 933 ft. S of No. 11 ..... Derrick.

Gulf Coast Drlg. & Prod. Co.'s No. 13-A Keystone Mills, A. S. James Sur., 933 ft. from N line, 466 ft. from E line ..... Comp. 24 bbls. per hour; ¼-in. choke, 5,050 ft.

Hamill & Smith's No. 3 Lewellen, R. G. Hamlett Sur., 2,757 ft. NE cor. of Sur. ..... Drlg. shale 2,630 ft.

Harrison & Abercrombie's No. 3 Massey, J. Massey Sur., 500 ft. from N line, 466 ft. from E line ..... Comp. flowing 75 bbls. per hr.; ½-in. choke, 5,117 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 3 Hamman, C. B. Stewart Sur., 1,314 ft. from W line, 1,690 ft. from S line ..... Rig.

Houston Oil Co.-Tide Water Oil Co.'s No. 3 Hooper, I.&G.N. Sur. No. 11, 667 ft. S of No. 1 in center E and W ..... Sand 5,145 ft.; cmtd. 7-in. csg. 5,145 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 4 Moore, Lemuel Smith Sur. ..... T.D. 5,092 ft; cmtd. 7-in. csg. 5,041 ft.

Houston Oil Co.-Tide Water Oil Co.'s No. 5 Moore, Lemuel Smith Sur., 466 ft. SW cor. ..... Rig.
Humble O. & R. Co.'s No. 8 Dobbins, Ransom House Sur., 1,084 ft. E of No. 7 ..... Comp. 55 bbls. per hour; ½-in. choke, 5,109 ft.
Humble O. & R. Co.'s No. 8 Emory, W.C. Ry. Sur., No. 13, 400 ft. from S line, 379 ft. from E line of lease ..... W.O.C. 5,140 ft.
Humble O. & R. Co.'s No. 9 Dobbins, Ransom House Sur., 425 ft. N line of tract, 3,610 ft. W line ..... Drlg. 1,100 ft.
Humble O. & R. Co.'s No. 12 Madeley, Ransom House Sur., 1,100 ft. SE of No. 6 ..... W.O.C. 5,148 ft.
Humble O. & R. Co.'s No. 6 L. B. McComb, Lemuel Smith Sur., 466 ft. from S line, 500 ft. from W line.. Drlg. shale 5,082 ft.
Humble O. & R. Co.'s No. 18 Moore, L. Smith Sur., 933 ft. NW of No. 8 ..... Drlg. shale 1,570 ft.
Humble O. & R. Co.'s No. 28 Moore, Lemuel Smith Sur., 933 ft. SW of No. 23 ..... Drlg. shale 2,175 ft.
Humble O. & R. Co.'s No. 29 Moore, Lemuel Smith Sur., 1,569 ft. NE of No. 32 ..... Drlg. sand 5,127 ft.
Humble O. & R. Co.'s No. 37 South Tex. Dev. Co., Theo. Slade Sur., 933 ft. NE of No. 36 ..... W.O.C. 5,120 ft.
Humble O. & R. Co.'s No. 40 Moore, Lemuel Smith Sur., 1,200 ft. SW, 300 ft. SE of most easterly NE cor. of lease ..... W.O.C. 5,067 ft.
Humble O. & R. Co.'s No. 3 E. Moorehead, L. A. Lang Sur., 500 ft. S line, 410 ft. E line ..... Setting screen and liner 5,132 ft.
Humble O. & R. Co.'s No. 2-E South Tex. Dev. Co., C. A. West Sur. ..... Drlg. 988 ft.
Humble O. & R. Co.'s No. 5-B South Tex. Dev. Co., C. T. Darby Sur. ..... W.O.C. 5,099 ft.
Humble O. & R. Co.'s No. 1-D South Tex. Dev. Co., 344 ft. E of center of W line of T.&N.O. Sur. No. 15.. Drlg. shale 5,049 ft.
Humble O. & R. Co.'s No. 1-E South Tex. Dev. Co., C. A. West Sur., center of 20-ac. lease ..... Drlg. sand 5,090 ft.
Malta Oil Co.'s No. 2 Tex-Osage, G. Harris Sur., 378 ft. S line, 466 ft. N line of lease ..... Rig.
Martex Oil Corp.'s No. 1 J. C. Young, Wilson Strickland Sur., 231 ft. from E line, 131 ft. from S line of 2½ acres ..... Drlg. shale 1,200 ft.
Showers & Moncrief's No. 2-A Dunn, Wilson Strickland Sur., 666 ft. N line, 410 ft. W line of lease .... Comp. 74 bbls. per hour; ½-in. choke, 5,113 ft.
R. D. Simonton, rec.'s No. 2 Hooper, J. W. Watson Sur., center of middle 10 acres of 60-ac. lease ..... Drlg. 5,137 ft.
Southern Liberty Oil Co.'s No. 4-B South Tex. Dev. Co. ..... Drlg. shale 3,995 ft.
Strake Pet. Corp.'s No. 2 Keystone Mills ..... Rig.
Sun Oil Co.'s No. 8 Foster, J. Bricker Sur. ..... Drlg. 2,344 ft.
Sun Oil Co.'s No. 11 Foster, J. Bricker Sur. ..... Drlg. 5,143 ft.
Sun Oil Co.'s No. 13 Foster, J. Bricker Sur. ..... Rig.
Sun Oil Co.'s No. 15 Foster, J. Bricker Sur. ..... Drlg. 2,364 ft.
Sun Oil Co.'s No. 2 Clark, S. Y. Sutton Sur., 467 ft. from W line, 469 ft. from S line ..... Set screen 5,130 ft.
Tide Water Oil Co.'s No. 12 Dean, W. C. C. Lynch Sur., 330 ft. out of NW cor. ..... T.D. 6,020 ft.; Pulling pipe 2,994 ft.
Tide Water Oil Co.'s No. 7 Krohn, S. H. Bryan Sur., 330 ft. SW cor. ..... Comp. 55 bbls. per hour; ½-in. choke, 5,139 ft.
Tide Water Oil Co.'s No. 24-A Lewis, C. B. Stewart Sur., 1,400 ft. from W line, 1,345 ft. from N line .... Drlg. sandy shale 3,340 ft.
Tide Water Oil Co.'s No. 25-A Lewis, C. B. Stewart Sur., 1,400 ft. W line, 2,233 ft. N line ..... Rigging.
Tide Water Oil Co.'s No. 26-A Lewis, C. B. Stewart Sur., 1,175 ft. W line, 3,101 ft. N line ..... Rigging.
Tide Water Oil Co.'s No. 8 South Tex. Dev. Co., T. &N.O. Sur. No. 5, 467 ft. from W line, 2,600 ft. from N line ..... Coring sand 5,074 ft.

WEST COLUMBIA—BRAZORIA COUNTY

Texas Co.'s No. 11 Abrams (W.O.) ..... T.D. 2,852 ft.; cmtd. 4¾-in. csg. 2,807 ft.; setting screen.

LIVINGSTON—POLK COUNTY

Gist Oil Co.'s No. 1 Kavanaugh Collins, A. Viesca Sur., 150 ft. NE, 150 ft. NW, SE cor. G. P. Reid's 740-ac. tract ..... Drlg. 1,600 ft.
Polk County Oil Corp.'s No. 2 Allen & Hilbrager (Craig), A. Viesca Sur., 330 ft. N, 330 ft. W of NE cor. of Shell's Munson 41.35-ac. tract ..... 7-in. csg. 4,223 ft.
Shell Pet. Corp.'s No. 2 Davis & Holmes, A. Viesca Sur., 485 ft. N, 376 ft. W of NE cor. of Jim Duff 35-ac. tract ..... T.D. 4,438 ft.; fishing swab.
Sunby Oil Co.'s No. 1 Grandburry & Smith, W. Shadburn Sur., 500 ft. SW of NE cor. Williams Sur., 150 ft. NW ..... Drlg. 418 ft.

ORCHARD—FORT BEND COUNTY

Gulf Prod. Co.'s No. 36 Moore, Mark Smith Sur., 4,792 ft. S along E line from NE cor. and 325 ft. W at right angles ..... Set 1 joint 5-in. screen 3,651 ft.; comp. 1,160 bbls. P.L. oil; ⅝-in. choke.

FANNETT—JEFFERSON COUNTY

Gulf Prod. Co.'s No. 7 Burrell, W. H. Smith Sur., 150 ft. W of No. 6 ..... Drlg. gumbo 1,144 ft.
Gulf Prod. Co.'s No. 2-A Junker, W. A. Smith Sur., 100 ft. from N line, 320 ft. from E line of lease ..... Drlg. sand 3,704 ft.

HANKAMER—LIBERTY COUNTY

Gulf Prod. Co.'s No. 2 Crowe & Jacobs, 1,700 ft. E, 1,050 ft. N of SW cor. of H.&T.C. Sur. No. 21 ..... Drlg. gumbo 3,705 ft.

HOCKLEY—HARRIS COUNTY

John Deering's No. 4 Warren, T. A. Scully Sur., 250 ft. SW of Texas Co.'s No. 2 Warren ..... Drlg. shale 1,140 ft.

MYKAWA—HARRIS COUNTY

Crown-Framer Oil Co.'s No. 4 Minnetex, Wm. Lovett Sur., 165 ft. S, 120 ft. W of NE cor. Blk. 193 ..... Drlg. 6,530 ft.

PIERCE JUNCTION—HARRIS COUNTY

Rio Bravo Oil Co.'s No. 22-A Settegast (D.D.), J. Kopman Sur. No. 44, 900 ft. S, 200 ft. W of NE cor. lease ..... T.D. 4,311 ft.; sidetracked and drlg. 4,180 ft.

PORT NECHES—ORANGE COUNTY

The Texas Co.'s No. 1 Orange Nat. Bank, 150 ft. out of NW cor of lease, Jacob Beaumont Sur. ..... T.D. 4,799 ft.; swabbing.

GRETA—REFUGIO COUNTY

Atkins & O'Neil's No. 1 O'Brien, 960 ft. N of S line of J. T. McGrew Sur., 750 ft. W of R.R. ..... Blowing wtr. 6,450 ft.; to abd.
Atlantic Oil Prod. Co.'s No. 1 O'Brien, E. H. Winfield Sur., Blk. 5, 466 ft. from S line in center of block E and W ..... Drlg. shale 1,970 ft.
Atlantic-Alamo's No. 1 J. J. O'Brien, E. H. Winfield Sur., 466 ft. out of NW cor. 167-ac. lease ..... Derrick.
Atlantic-Alamo's No. 1 J. M. O'Brien, E. H. Winfield Sur., 466 ft. out of SE cor. 212-ac. tract ..... Cmtd. 13-in. 310 ft.
Blanco Oil Co.'s No. 1-B J. M. O'Brien, E. H. Winfield Sur., 330 ft. out of NE cor. of 50.86-ac. tract ..... T.D. 4,407 ft.; 960 bbls. P.L. oil, ¼ and 5/16-in. choke; tubing pressure 650 lbs.; csg. pressure 850 lbs.
Blanco Oil Co.'s No. 2-B J. M. O'Brien, E. H. Winfield Sur., 466 ft. out of SE cor. 50 acres ..... Sticky shale 523 ft.
Blanco Oil Co.'s No. 2-A J. J. O'Brien, N. C. Crunk Sur., 600 ft. SW of No. 1-A ..... Drlg. hard rock and sand 3,165 ft.
Circle W Oil Co.'s No. 1 O'Brien, E. H. Winfield Sur., 463 ft. from S line of survey, 466 ft. from E line of 113-ac. tract ..... Drlg. hard lime 2,240 ft.
Circle W Oil Co.'s No. 2 O'Brien, E. H. Winfield Sur., 1,989 ft. from N line, 466 ft. from E line of 212-ac. tract ..... Drlg. shale 2,145 ft.
Dash Prod. Co.'s No. 2 O'Brien, N. S. Crunk Sur., 466 ft. S of N line of center E and W ..... Drlg. 800 ft.
Dash Prod. Co.'s No. 3 O'Brien, N. S. Crunk Sur., 645 ft. of W line, 301 ft. at right angles R.R. ..... Rigging.

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"Cotton States and International Exposition - 1895"
"Paris Universal Exposition - 1900"
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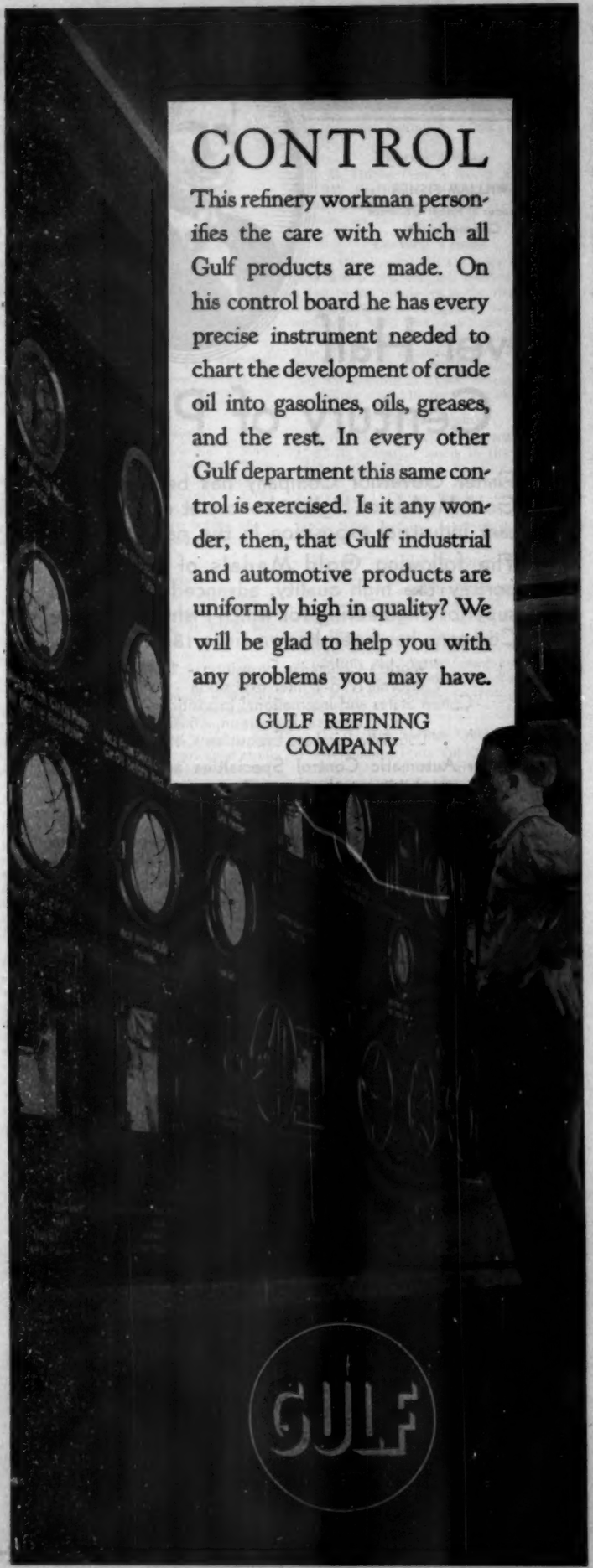
CONTROL
This refinery workman personifies the care with which all Gulf products are made. On his control board he has every precise instrument needed to chart the development of crude oil into gasolines, oils, greases, and the rest. In every other Gulf department this same control is exercised. Is it any wonder, then, that Gulf industrial and automotive products are uniformly high in quality? We will be glad to help you with any problems you may have.
GULF REFINING COMPANY
GULF

Greta Oil Corp.'s No. 3 O'Brien, E. H. Winfield Sur., 150 ft. out of SW cor. of tract ..... Cmtd. 10¾-in. csg. 1,395 ft.
Heyser & Heard's No. 1 O'Brien, E. H. Winfield Sur., 330 ft. out of SW cor. of 50-ac. tract ..... T.D. 4,405 ft.; comp. 735 bbls. of P.L. oil, ¼ and ⅛-in choke; tubing pressure 1,400 lbs.; csg. pressure 1,700 lbs.
Heyser & Heard's No. 2 O'Brien, E. H. Winfield Sur., 466 ft. NW cor. 50-ac. tract, Blk. 6 ..... Rigging.
Heyser & Heard's No. 1 J. M. O'Brien, C 8½, Blk. 5 .. Rigging.
Edwin M. Jones' No. 1 J. M. O'Brien, C 8½ of Blk. 4, or 466 ft. from S and W lines of 50-ac. tract. Set surface csg.
Edwin M. Jones' No. 1 A. O'Brien ..... Rigging.
Edwin M. Jones' No. 1 O'Brien, E. H. Winfield Sur., Blk. 4, 466 ft. from S line in center E and W ..... T.D. 4,404 ft.; comp.; no gauge.
Edwin M. Jones' No. 2 O'Brien, E. H. Winfield Sur., Blk. 4, 466 ft. from N line in center E and W ..... Derrick.
Neural Oil Co.'s No. 1-A Wilson Heard, M. J. Ximines Sur., 330 ft. out of NE cor. lease ..... Drlg. shale 4,255 ft.
Neural Oil Co.'s No. 1 Ira Heard, M. J. Ximines Sur., 330 ft. out of NW cor. of 25-ac. tract ..... Cmtd. csg. 1,252 ft.
Neural Oil Co.'s No. 1 O'Connor ..... Drlg. shale 3,850 ft.
Neural Oil Co.'s (Pearson) No. 1 Thomas O'Connor, 330 ft. SE of railroad ..... Derrick.
Rutherford and Atlantic Oil Prod. Co.'s No. 1 O'Brien, Crunk Sur. ..... Rigging.
Smith & Flobott's No. 1 O'Brien, E. H. Winfield Sur., 150 ft. out of SW cor. ..... Cored oil sand 4,357-65 ft.
Smith & Flobott's No. 1 J. F. B. Heard, 466 ft. from W line, 522 ft. from S line of 150-ac. tract, Maria Jesus and Ximines Sur. (A-324) ..... Cmtd. 13-in. csg. 256 ft.
Southwest Pet. Corp.'s No. 2-A O'Brien, E. H. Winfield Sur., 466 ft. NW cor. 25-ac. tract ..... Drlg. sticky shale 1,537 ft.
Southwest Pet. Corp.'s No. 2-B O'Brien, E. H. Winfield Sur., 466 ft. from R.R. right of way, 933 ft. SW of No. 1-B ..... Derrick.
Southwest Oil Corp.'s No. 1 C. O'Brien, N. S. Crunk Sur., 430 ft. W of E line, 345 ft. S of N line of 22.7 acres ..... Rigging.
United Prod. Co.'s No. 6 Fox est., Wm. Hews and L. Brown Sur., 2,956 ft. N line, 787 ft. E line ..... Rigging.
Vidauri Oil Co.'s No. 1 Welder, 330 ft. S of N line of James T. McGrew Sur., and 700 ft. W of R.R. .... Abd. 6,500 ft.

SOUTH LOUISIANA FIELDS

ACADIA PARISH

Massert et al's No. 1 Marsh, 4,960 ft. S, 470 ft. E of NW cor. Sec. 44-9s-1e ..... Abd. 1,960 ft.

ASSUMPTION PARISH

Barnsdall Oil Co.'s No. 1 Williams, 330 ft. out of NE cor. Sec. 38-14s-14e ..... Drlg. shale 6,620 ft.

VINTON—CALCASIEU PARISH

Wilson Broad's No. 10 Wilson Strip, 650 ft. N, 379 ft. E, SW cor. SE NE Sec. 33-10s-12w ..... Drlg.

CALCASIEU PARISH

Fred Oil Co.'s No. 1 Farszt, 566 ft. N, 300 ft. W, SE cor. NW SE Sec. 26-8s-10w ..... Derrick.
Quintana Oil Co.'s No. 1 Nelson, 1,515 ft. N, 35 ft. W of SW cor. Sec. 23-10s-9w ..... Drlg. shale 7,448 ft.
Union Sulphur Co.'s No. 1 Stout, 1,237 ft. N, 1,167 ft. W of SE cor. Sec. 36-8s-8w ..... Drlg. 6,379 ft.

CAMERON MEADOWS—CAMERON PARISH

Burton-Sutton Oil Co.'s No. 1 School Land, 500 ft. W and 20 ft. N of SE cor. Sec. 16-14s-13w ..... Abd. 5,503 ft.

DARROW—ASCENSION PARISH

Rio Bravo Oil Co.'s No. 1 Community, 200 ft. N line, 1,500 ft. E at right angles from SW cor. Sec. 15-10s-2e ..... Abd. in salt 4,900 ft.

CHOCTAW—IBERVILLE PARISH

Standard Oil Co. of La.'s No. 3 Myrtle Grove, 2,100 ft. N, 200 ft. W, SE cor. SW Sec. 52-9s-11e ..... O.W.D.D. 2,465 ft.
Standard Oil Co. of La.'s No. 5 Myrtle Grove, 1,700 ft. N, 200 ft. W, SE SW cor. SW Sec. 52-9s-11e ..... Capping piling.

EVANGELINE PARISH

J. E. Loudau's No. 2 Vidrine, 280 ft. W, 400 ft. S, NE cor. Sec. 47-3s-2e ..... O.W.D.D. 1,500 ft.

QUEYDAN—VERMILLION PARISH

Pure Oil Co.'s No. 5 Alliance Trust Co., 525 ft. from N line, 580 ft. from W line of Sec. 34-11s-1w ..... Cored wtr. sand 4,154 ft.
Pure Oil Co.'s No. 1 Grady Lee-Humble, 2,031 ft. E. 325 ft. N of NW cor. Sec. 34, in Sec. 27-11s-1w.... Bldg. road.
Pure Oil Co.'s No. 4 Mulvey, 1,721 ft. from N line, 2,515 ft. from W line of Sec. 34-11s-1w ..... Drlg. sand 3,468 ft.

LOCKPORT—CALCASIEU PARISH

Magnolia Pet. Co.'s No. 8 State-Bayou D'Inde, 865 ft. E, 570 ft. N of SW cor. NE Sec. 8-10s-9w..... Comp. 500 bbls.; T.D. 6,551 ft.
Magnolia Pet. Co.'s No. 4-A Watkins fee, 685 ft. E, 200 ft. N of SW cor. NW NE Sec. 9-10s-9w ..... Rigging.

BLACK BAYOU—CAMERON PARISH

Shell Pet. Corp.'s No. 15 Watkins, 1,590 ft. from N line and 680 ft. from E line of Sec. 18-12s-12w ..... T.D. 4,711 ft.; P.B. and drlg. out cmt. 4,645 ft.

HACKBERRY—CAMERON PARISH

Gulf Ref. Co.'s No. 12 Irwin, 865 ft. N, 516 ft. E of SW cor. Sec. 44-12s-9w ..... Drlg. hard shale 5,363 ft.
Texas Co.'s No. 10-B State, 1,000 ft. E, 200 ft. N of NE cor. Sec. 13-12s-10w ..... D.D. 7,264 ft.
Union Sulphur Co.'s No. 7 Gulf Land-Humble lease, 1,010 ft. N, 661 ft. E of SW cor. Sec. 12-12s-10w... Drlg. gumbo 4,420 ft.

IOWA—CALCASIEU AND JEFF DAVIS PARISHES

Magnolia Pet. Co.'s No. 4 Waite, Sec. 12-9s-7w, 330 ft. from E line, 660 ft. S of No. 3 ..... Sticky shale 6,270 ft.; drill pipe stuck.
Magnolia Pet. Co.'s No. 2 Willett, 990 ft. N, 330 ft. E of SW cor. NW Sec. 7-9s-6w ..... Drlg. sticky shale 5,605 ft.
Shell Pet. Corp.'s No. 4 Heyd, 2,122 ft. W, 1,310 ft. S of NE cor. Sec. 13-9s-7w ..... Blowing wild; T.D. 4,929 ft.
Shell Pet. Corp.'s No. 5 Heyd, 325 ft. S of NW cor. of Sec. 18-9s-7w, and 225 ft. W of E line of Sec. 13.. Rigging.
Shell Pet. Corp.'s No. 2 Stafford, 330 ft. from W line and 365 ft. from S line of NW Sec. 18-9s-6w ..... T.D. 6,013 ft.; cmtd. 7-in.
Shell Pet. Corp.'s No. 1 Tuten, 265 ft. S, 330 ft. W of NE cor. SW Sec. 13-9s-7w ..... Temp. S.D. 1,337 ft.

JEFFERSON DAVIS PARISH

Humble O. & R. Co.'s No. 3 Davilbiss, 1,850 ft. S, 250 ft. W of NE cor. Sec. 14-9s-4w ..... T.D. 7,843 ft.; P.B. to 7,185 ft.; drlg. hard sand 7,408 ft.

JENNINGS—ACADIA PARISH

Yount Lee Oil Co.'s No. 13 Houssiere-Latreille, Sec. 47-9s-3w, 300 ft. E of No. 12 ..... No report.

LEESVILLE—LA FOURCHE PARISH

Texas Co.'s No. 7 L.L.E., 2,921 ft. S, 300 ft. W of NE cor. Sec. 27-21s-22e ..... Rigging.

PLAQUEMINES PARISH

Texas Co.'s No. 9 Garden Island Bay, 4,791 ft. S, 2,504 ft. W of NE cor. Sec. 104-23s-32e ..... Drlg. gumbo 850 ft.

SORRENTO—ASCENSION PARISH

Union Sulphur Co.'s No. 1 Lacey Frank, 1,640 ft. N, 1,175 ft. W, SE cor. Sec. 16-10s-4e ..... Rig.

STARKS—CALCASIEU PARISH

Union Sulphur Co.'s No. 3 Industrial, 1,345 ft. N, 390 ft. E of SW cor. Sec. 20-9s-12w ..... Drlg. shale 4,932 ft.

SULPHUR—CALCASIEU PARISH

Union Sulphur Co.'s No. 723 fee (W.O.), 1,170 ft. N, 640 ft. W of SE cor. SW NW Sec. 29-9s-10w ..... T.D. 4,273 ft.; P.B. to 3,500 ft.; to test.
Union Sulphur Co.'s No. 783 fee, Sec. 29-9s-10w ..... Salt 5,117-5,761 ft.; sidetracking at 4,403 ft.
Union Sulphur Co.'s No. 735 fee, 336 ft. N, 703 ft. E of center of Sec. 29-9s-10w ..... Drlg. 2,056 ft.

ST. BERNARD PARISH

Southern Sulphur Co.'s No. 1 Lake Lery, 400 ft. W. 500 ft. N. SW cor. Sec. 28-13s-15e ..... Drlg. 290 ft.
Southern Sulphur Co.'s No. 1 State Lake Bargne, 850 ft. N, 230 ft. E, SE cor. Sec. 33-13s-15e ..... Drlg. 590 ft.

ST. LANDRY PARISH

H. H. Hotchins Lbr. Co.'s No. 1 Whiteman Lbr. Co., 250 ft. out of SW cor. NE Sec. 15-5s-6e ..... W.O.C. 710 ft.

ST. MARTIN PARISH

E. R. Bram et al's No. 1 Toby, 2,600 ft. northwesterly along Bayou Teche from S. or out of SE cor. of Sec. 105, being point where bayou crosses twp. line, thence northeasterly at right angles 660 ft., in Sec. 105-8s-5e ..... Derrick.
Standard Oil Co. of Kansas' No. 1 E. B. Hopkins, Sec. 33-10s-6e ..... Drlg. shale 5,985 ft.

TERREBONNE PARISH

Texas Co.'s No. 9 State-Lake Pelto, 4,066 ft. N, 491 ft. E of SW cor. Sec. 9-23s-18e ..... Drlg. 3,211 ft.

TEXAS

MISCELLANEOUS WILDCATS

AUSTIN COUNTY

Turnbull et al's No. 1 Watson, Stephen F. Austin Sur. No. 6, 150 ft. out of SE cor. of 115.6-ac. tract ..... Drlg. sandy shale 3,848 ft.

BRAZORIA COUNTY

Danciger O. & R. Co.'s No. 2 Hunt, 6,550 ft. E line, 5,550 ft. S line, W. Carson Sur. ..... Coring shale 7,768 ft.

CHAMBERS COUNTY

Mills & Jones' No. 1 Gau, John S. Roberts Sur., 255 ft. W, 1,052.72 ft. S of NE cor. 138-ac. tract ..... T.D. 5,025 ft; washing to bottom.

COLORADO COUNTY

Humble O. & R. Co.'s No. 1-B O. M. Powell, 1,399 ft. from S line, 467 ft. from W line of Sec. 48, L&G. N. Sur. ..... Drlg. shale 6,430 ft.
Plymouth Oil Co.'s No. 1 Broussard, 2,200 ft. N and 426 ft. W of SW cor. Sec. 47, L&G.N. Sur. ..... Drlg. shale 2,176 ft.
Weimar Oil Co.'s No. 1 H. T. Brandt, F. Pettus Sur., 250 ft. from N line, 250 ft. from E line of tract .... Drlg. shale 6,015 ft.
Weimar Oil Co.'s No. 1 Miller ranch, approx. center H.&T.B. Sur. No. 9 ..... Derrick.

FORT BEND COUNTY

A. W. Phillips and Robert T. Craig's No. 1 Grigor, 2,150 varas from E line, 1,550 varas from N line of J. S. O'Connor Sur. ..... S.D. 60 ft.
Fresno Oil Corp.'s No. 1 M. T. Wood, T. Gleason Sur., center of 10-ac. tract (Blk. 474) ..... Drlg. shale and lime 4,701 ft.

GRIMES COUNTY

Cambrian Oil Co.'s No. 1 W. V. Sangster, John Moore Sur., 300 ft. out of most westerly NW cor. of 218-ac. tract ..... Derrick.
Foster et al's No. 1 Quinn, 7,100 ft. from W line, 3,000 ft. from N line of S. F. Austin Sur. ..... Derrick.
Petroleum Southwest Co.'s No. 1 Greer, Pat O'Connor Sur., 200 ft. from W line, 400 ft. from N line of 150-ac. tract ..... Drlg. sand and shale 3,754 ft.

HARRIS COUNTY

Cockburn Oil Corp.'s No. 1 C. Marcus, Wm. Hardin Sur., 1,500 ft. S along E line of 55-ac. tract from Buffalo Bayou and 300 ft. W at right angles ..... Drlg. shale 2,972 ft.
Gohlson & Parson's No. 1 W. E. Freeman, 330 ft. SE cor. Sec. 57, Blk. 2, H.&T.C.R.R. Sur. ..... Drlg. shale 6,532 ft.
H. B. Jordan's No. 1 Cochran, J. L. Jordan Sur., 1,950 ft. S line, 1,980 ft. E line ..... Standing 2,045 ft.
Jack Schultz et al's No. 1 West Prod. Co., Geo. Dedrick Sur., 300 ft. W of R.R., 100 ft. N of S line .... Cmtd. 1,600 ft.; 10-in. csg.
S. J. Sloan's No. 1 Ellis, 655 ft. from N line, 1,130 ft. from W line of Sec. 22, Geo. Ellis Sur. ..... Rigging up.
Wolfe Oil Co.'s No. 1 Paddock, J. Cunningham Sur., 300 ft. W of E line of Blk. 41 on line dividing Blks. 46 and 47 ..... Derrick.

JACKSON COUNTY

Continental Oil Co.'s No. 1 Vincek, V. Garcia Sur., 1,800 ft. W, 300 ft. N of SE cor. of Lot 17, Bennett Subd. ..... Drlg. shale 865 ft.

JEFFERSON COUNTY

Sun Oil Co.'s No. 1 Paggi, 990 ft. W, 1,610 ft. N of SE cor. of T.&N.O. Sur. No. 22 ..... Drlg. shale 5,137 ft.

LIBERTY COUNTY

J. K. Seale, tr.'s No. 1 T. W. Finley, A. B. Hardin Sur., 330 ft. out of SW cor. of 25-ac. tract ..... Derrick.
Yount Lee Oil Co.'s No. 1 E. W. Boyt, H.&T.C. Sur., Sec. 17, 300 ft. from S line, 2,440 ft. from E line of section ..... Washing to bottom 9,509 ft.

MATAGORDA COUNTY

Continental Oil Co.'s No. 1 Baker, 400 ft. out of SW cor. Lot 17, Robbins & Middle Subd., J. W. Criswell Sur. ..... Reaming to set csg. 5,415 ft.
Oils Consolidated, Inc.'s No. 1 Hawkins, Daniel McCarthy Sur., 1,240 ft. NE, 350 ft. NW of S cor. .... Derrick.
United North & South Dev. Co.'s No. 1 Unit 6 (No. 2 Stoddard), 25 ft. each way out of NW cor. of Lot 19, Buckeye Townsite ..... Coring 7,872 ft.
United North & South Dev. Co.'s No. 1 Unit 14 (No. 1 Dr. Plotner), 1,310 ft. SE of No. 1 Stoddard and 136 ft. W of right of way of Collegeport branch of St. L.&B.M.R.R., Buckeye ..... Coring 7,875 ft.
United North & South Dev. Co.'s No. 1 Unit 26, 1,325 ft. S, 1,000 ft. E of No. 1 Unit 6 ..... Drlg. shale 7,870 ft.

MONTGOMERY COUNTY

McElroy Oil Corp.'s No. 1 McWhorter, T. J. Nichols Sur., 390 ft. N of center of W 1,900 acres of McWhorter's 3,000-ac. farm ..... Drlg. shale 2,068 ft.

POLK COUNTY

C. E. Stewart's No. 1 Stephenson, E. Stevenson Sur. (Abst. 761), 1,633 ft. from N line, 920 ft. from W line of 217 acres ..... Rig.

REFUGIO COUNTY

Humble O. & R. Co.'s No. 8 O'Connor, 13,350 ft. N of S line of lease and 12,727 ft. W of E line of Florentine Rios Sur. ..... Spudded.
Texas Co.'s No. 1 Rooke, J. M. Aldritte Sur., 7,500 ft. S 53 deg. W, 850 ft. 37 deg. W of N cor. Sur. .... Derrick.

SAN JACINTO COUNTY

Piedmont Oil Co.'s No. 1 Foster Lbr. Co., 500 ft. out of NW cor. of G. Taylor Sur. ..... Cmtd. 10-in. csg. 918 ft.

VICTORIA COUNTY

Gulf Prod. Co.'s No. 4 Keeran, Martin DeLeon Sur., 2,320 ft. N 41 deg. 43 min. W, parallel to NE line of lease from No. 1 ..... Sand 5,430-50 ft.; tested S.W.
The Texas Co.'s No. 6-A McFaddin, 5,600 ft. from NE line, 250 ft. from SE line of A. J. Gray ..... Gas sand 3,039-49 ft.; pumping wtr. and mud into sand to kill pressure.
The Texas Co.'s No. 7 McFaddin, 6,600 ft. S 15 deg. W, 450 ft. N 75 deg. W at right angles from the NE cor. of the A. J. Gray Sur. ..... T.D. 1,176 ft; blowing gas and mud.

WALLER COUNTY

Franklin et al's No. 1 A. C. Blumberg, John Baker Sur., 466 ft. out of NE cor. of most northerly 100-ac. tract ..... Rigging.
Hobson & Moore's No. 1 Peters, Juste Liendo Sur., 590 ft. W of creek, 1,144 ft. N of S cor. ..... Shut down.
Texas Seaboard Oil Co.'s No. 1 B. Schwartz, Isaac Best Sur., 1,050 ft. from S line, 1,100 ft. from E line of 800-ac. tract ..... Drlg. gumbo 1,509 ft.

WASHINGTON COUNTY

Clark & Cowden's No. 1 F. A. Ammons, S. Woodward Sur., 16,500 ft. from N line, 775 ft. from E line of survey ..... No report.

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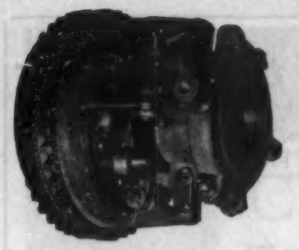

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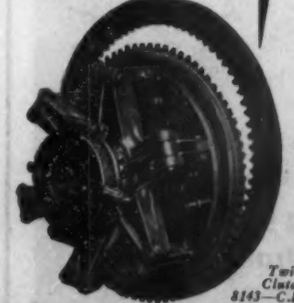

Twin Disc Clutch No. 8143—C.R.-1-13

George W. Strake's No. 1 Henry Wehmeyer, M. Byrd Sur., 3,000 ft. from W line, 500 ft. from N line of 599.50-ac. tract ..... Drlg. 680 ft.

WHARTON COUNTY

Nabers et al's No. 1 Lurker, 210 ft. out of SE cor. of N½ SW Sec. 58, E.T.R.R. Sur. ..... R.U. to deepen 5,026 ft.
Pure Oil Co.'s No. 1 W. Garrett, Sec. 28, 4,456 ft. SE, 1,690 ft. NE of W cor. ..... Moving in.
Pure Oil Co.'s No. 1 A. J. Wilder, T. W. Hurd Sur., 509, 2,575 ft. SE, 1,690 ft. NE from W cor. of Sec. 28. Moving in.
Pure Oil Co.'s No. 1 Stewart, 2,419 ft. NW, 1,650 ft. NE of S cor. of Sec. 35, Morris & Cummings Sur. ..... T.D. 3,015 ft.; set whipstock 6,505 ft.; sidetracking 6,671 ft.
Pure Oil Co.'s No. 1 Chas. T. Kuntze, 2,133 ft. from NW line, 467 ft. from SW line, Sec. 27, Morris & Cummings Sur. ..... Coring shale and sand showing oil 6,073 ft.
Pure Oil Co.'s No. 1 W. H. Lancaster, Morris & Cummings Sur., Sec. 23, 1,650 ft. NW, 1,600 ft. SW of E cor. of section ..... Rigging.
Pure Oil Co.'s No. 1 Isaac Weaver, J. M. Brownson Sur., Sec. 22, 1,650 ft. out of N cor. of section .... Derrick.
Smith, McDannald and Pure Oil Co.'s No. 1 B. M. Yeamans, 330 ft. out of N cor. of B. M. Yeamans Sur., Abst. 913 ..... Moving in.
Smith & McDannald and Shell Pet. Corp.'s No. 1 Ridgeway, 1,980 ft. from S, 660 ft. from W of NE cor. Sec. 8, H.&T.C. Sur. ..... Cored gas sand 6,790 ft.

Wildcat Operations in Louisiana-Arkansas

(Continued from Page 48)

Geo. L. Pace's No. 1-B Cole, 150 ft. N and E, SW cor. SE NE Sec. 11-11-11 ..... Began drlg. Aug. 10; 10-in. 60 ft.; drlg. 1,009 ft.
N. B. Porter's No. 1 J. W. Porter Est., 330 ft. N and E, SW cor. SE SE Sec. 23-13-13 ..... Drlg. 954 ft.

EAST CARROLL PARISH

Marr & Collins' No. 1 Desha Lbr. Co., NW Sec. 42-21-12.. Derrick.

SABINE PARISH

A. F. Allen's No. 1 G. W. Belton, NE cor. NW NW Sec. 33-9-13 ..... S.D. fuel 400 ft.
J. F. Morrissey's No. 1 Wyatt Lbr. Co., 150 ft. S and W, NE cor. NW NW Sec. 13-4-13 ..... S.D. high wtr. 902 ft.

CONVERSE DISTRICT

A. G. Craig's No. 1 Belton, 330 ft. N and E, SW cor. NW NW Sec. 33-9-13 ..... Derrick.
R. L. Gay's No. 1-B Bowman-Hicks, 330 ft. N and E, SW cor. SW NE Section 22-9-13 ..... Recmt. 8-in. 1,844 ft.
Helena O. & G. Co.'s No. 1 C. Jackson, 330 ft. S and W, NE cor. SW SW Sec. 10-9-13 ..... Rig up.
Lambert et al's No. 1 Edwards, 300 ft. S and E, NW cor. SW NW Sec. 29-9-13 ..... Arranging to P.B. for acid test; T.D. 3,328 ft.
Joe Modisette's No. 2 Frost Lbr. Industries, 330 ft. S and E, NW cor. NE SW Sec. 16-9-13 ..... S.D.; W.O. 3,190 ft.
Sabine Royalties Co.'s No. 1 Balew & Carter, 330 ft. N and E, SW cor. NW SW Sec. 21-9-13 ..... Began drlg. Aug. 10; cmtd. 12½-in. 59 ft.; drlg. 585 ft.
E. M. Self's No. 1 G. I. Paul, 330 ft. N and W, SE cor. NE SW Sec. 9-9-13 ..... Drlg. 1,220 ft.
Homer Tyson's No. 1 G. W. Hough, 330 ft. S and E, NW cor. SW NW Sec. 31-9-13 ..... Derrick.
Windsor Oil Co.'s No. 1 Graham, 330 ft. N and W, SE cor. SE NW Sec. 20-9-13 ..... Began drlg. Aug. 10; 10-in. 20 ft; drlg. 620 ft.

Arkansas

ARKANSAS COUNTY

Allen & Wright's No. 1 C. P. Trice, SE cor. NW SW SE Sec. 9-2s-3w ..... Derrick.

COLUMBIA COUNTY

C. W. Alworth et al's No. 1 W. D. King, SW cor. SE SW Sec. 14-17-20 ..... S.D. 1,864 ft.

JEFFERSON COUNTY

J. E. Elliott's No. 1 B. V. Nevin, 440 ft. N and E, SW cor. SW NW Sec. 26-4-10 ..... Derrick.
R. V. Harrell et al's No. 1 McGoughey, NW cor. Sec. 22-7-10 ..... S.D. 1,550 ft.

HEMPSTEAD COUNTY

Kentucky O. & G. Co.'s No. 1 Leslie, NW cor. SW NW Sec. 21-9-26 ..... Derrick.

LAFAYETTE COUNTY

Geo. W. Harper's No. 1 Reed-Bodcaw, NW cor. Sec. 16-15-22 ..... Drlg. 2,172 ft.

LONOKE COUNTY

Joe D. Strahan's No. 1 Hardin, NW cor. NW NW Sec. 18-2n-7 ..... Rig up.

MILLER COUNTY

Duluth-Ark. Oil Co.'s No. 2 Beck, 330 ft. S and E, NW cor. SE SW Sec. 24-15-26 ..... Drlg. 500 ft.
Claude English et al's (was Tarkington et al's) No. 1 Gibson, 1,980 ft. N, 660 ft. E, SW cor. Sec. 30-18-27.. S.D. 300 ft.

OUACHITA COUNTY

J. D. Reynolds' No. 1 Snow Hill Baptist Church, 525 ft. E, 115 ft. S, NW cor. SE SW Sec. 28-15-15..... Rig up.

UNION COUNTY

E. R. Henderson's No. 1 Snyder, 400 ft. N, 660 ft. E, SW cor. NE SE Sec. 2-19-15 ..... Coring 2,620 ft.

NEVADA COUNTY

Longoria et al's No. 1 Dick Gulley heirs, Sec. 2-12-20.... Began drlg. July 5 and S.D.

Mississippi

JONES COUNTY

Snow-Black Pet. Co.'s No. 1 Watson, 600 ft. W, 210 ft. S, center, Sec. 24-7-13 ..... Drlg. shale 2,930 ft.

LAMAR COUNTY

Lamar Oil Co.'s No. 1 Scott, NE NE Sec. 18-2n-14..... S.D. 3,010 ft.

MADISON COUNTY

H. A. Wilson,tr.'s No. 1 Copex, 200 ft. N and E, SW cor. SW NE Sec. 24-9-3e ..... Began Drlg. Aug. 13; drlg. 235 ft.

NEWTON COUNTY

Bob Dalton et al's No. 2 Majura, SE SE Sec. 25-6-11.... Rig up.

WALTHALL COUNTY

Mutual O. & G. Co.'s No. 1 Boyd, Sec. 24-2n-9e, SW cor. SW SE ..... Derrick pattern.

WARREN COUNTY

Kistler & Stivers' No. 1 Blake est., 1,815 ft. NE Blakely Station, Sec. 15-17-5 ..... Drlg. shale and shell 4,800 ft.
Orbet Drlg. Co.'s No. 1 R. L. Parker, 300 ft. E, CWL, Sec. 14-14-1e ..... Rig up.

Louisiana-Arkansas Proven Areas

North Louisiana

CADDO—BETHANY

Company, well, farm name, section and block—	Remarks:
Tom Collins Pet. Co.'s No. 1 Gill & Lipscomb, 660 ft. N, 1,506 ft. E, SW cor. Sec. 17-16-16	Derrick.

CADDO PARISH—BLANCHARD

Calatex O. & G. Co.'s No. 1 G. M. Agurs, Sec. 9-16-16.... Drlg. lime 2,630 ft.

CADDO—RODESSA

Ark. La. P. L. Co.'s No. 1 Williams & Windham, Sec. 4-22-16, 660 ft. S, 660 ft. E, NW cor. NE NW ..... Coring 5,363 ft.

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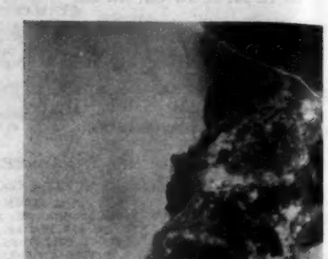

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United Gas Public Service Co.'s No. 1 Festervan, Sec. 23-23-16. 1,980 ft. N, 1,320 ft. E, SW cor. ..... Drlg. shale and lime 4,391 ft.

DE SOTO PARISH

Tom McKinney et al's No. 1 J. M. Nabors, 330 ft. N and E, SW cor. SE SE Sec. 26-12-12 ..... Rig up.

MOREHOUSE PARISH

United Gas Public Service Co.'s No. 29 Crossett Lbr. Co., 661 ft. E, 660 ft. N, SW cor. SW SW Sec. 17-22-5 ..... Derrick.

United Gas Public Service Co.'s No. 30 Crossett, Sec. 25-22-4e ..... Cmtd. 6⅝-in. 2,168 ft.; used acid 2,216 ft.; arranging test.

United Gas Public Service Co.'s No. 3 Patton, 3,375 ft. S, 2,917 ft. E, NW cor. Sec. 12-20-11 ..... Waiting on gauge; T.D. 2,212 ft.

OUACHITA PARISH

Century Carbon Co.'s No. 3 McGee, 220 ft. S, 4,667 ft. E, NW cor. Sec. 10-18-4 ..... Began drlg. Aug. 8; 10-in. 103 ft; drlg. 1,700 ft.

Isabnet & Pipes' No. 1 Nelson, 150 ft. S and W, NE cor. Lot 8, Sec. 4-18-4 ..... Began drlg. Aug. 8; 12½-in. 40 ft.; 8-in. 760 ft.; 6-in. 2,167 ft.

RED RIVER PARISH

E. M. Thompson's No. 1 T. J. Crichton, SW SE Sec. 17-13-10 ..... Drlg. 1,220 ft.

SABINE PARISH—ZWOLLE

J. C. Chandler's No. 1 Rains, SW cor. NW Sec. 14-7-11 Rigging up.

Dyer et al's No. 1 McCollister, 330 ft. S and E, NW cor. SW NE Sec. 24-7-12 ..... Derrick.

T. E. Kelly's No. 1 McClanahan, 1,000 ft. S, 330 ft. E, NW cor. SW NW Sec. 36-8-11 ..... Drlg. 1,120 ft.

Pelican Nat. Gas Co.'s No. 24 La. Long Leaf Lbr. Co., 330 ft. N and E, SW cor. Sec. 5-7-11 ..... Rig up.

H. C. Pitts' No. 1 Trammell 330 ft. N and E, SW cor. NW NE Sec. 5-7-11 ..... Derrick.

Rig Oil Co.'s No. 1 Walden, 330 ft. N and E, SW cor. NW NE Sec. 28-8-11 ..... Derrick.

Ben F. Smith's No. 5 Turner, 330 ft. N, 723 ft. W, SE cor. N½ NW Sec. 4-7-11 ..... Began drlg. Aug. 11; 10-in. 40 ft.; drlg. 1,600 ft.

L. J. Tillery's No. 1 Sabine Lbr. Co., 800 ft. S, 220 ft. W, NE cor. Lot 3, La. Nava grant, Sec. 5-7-11..... Location.

C. H. Tuttle's No. 4 Byrd, 800 ft. S, 920 ft. E, NW cor. NW NW Sec. 7-7-10 ..... Derrick.

Mississippi

HINDS COUNTY

Atkins & Hightower's No. 1 Woodland Hills, 400 ft. W, 427 ft. N, SE cor. NW NE Sec. 26-6-1e ..... Cmt. 8-in. 770 ft; drlg. 2,150 ft.

RANKIN COUNTY

Jas. A. Alexander, tr.'s No. 2 Love Pet. Co., 720 ft. S, 63 ft. E, C Sec. 36-6-1e ..... Rig up.

J. A. Alexander, tr.'s No. 1 Love Pet. Co., 600 ft. W, 240 ft. S, NE cor. NW NE Sec. 1-5-1e ..... Drlg. sand 2,195 ft.

Jas. A. Baker et al's No. 1 Hawkins, 440 ft. E, 523 ft. N, SW cor. SE SW Sec. 31-6-2e ..... Derrick.

Ferguson, Fuller & Metz' No. 1 Ammons, 350 ft. E and S, NW cor. NW NW Sec. 35-3n-3e ..... Derrick.

Muse & Muse's No. 1 Carlton, Sec. 13-5n-1e, 650 ft. E, 725 ft. N, SW cor. ..... Cmtd. 6-in. 2,407 ft.

EAST TEXAS (Border Counties)

MARION COUNTY

Terry et al's No. 1 E. B. Colgin, 300 ft. N and E, SW cor. Martin Noll Sur. ..... Derrick.

PANOLA COUNTY

W. H. Nichols et al's No. 1 S. W. Ray, 330 ft. S of N line, 330 ft. W of E line, W. P. Culver Sur. ..... Derrick.

M. H. Robbins et al's No. 1 Alsee Williams, 165 ft. N and E, SW cor. 30-ac. tract in Winnie Mann Sur. ... Derrick.

Wildcat Operations in Southwest Texas

(Continued from Page 51)

F. J. Von Delden et al's No. 1 Frank Webber, 150 acres in J. Montez No. 6 ..... Rigging up; spudded.

Dingman's No. 1 Cassin, 175 ft. from N, 120 ft. from W line of 1,250-ac. tract in Rodriquez Sur. ..... T.D. 1,201 ft.; bailed some heavy oil.

Austin Hull's No. 1 Clawson, 268 ft. from W line, 2,500 ft. from S line of tract, 12 miles N of San Antonio.. T.D. 1,810 ft; trying to run csg.

LaSalle Oil Co.'s No. 1 City Sewage farm, 150 ft. S of Rilling Road, 450 ft. W of NE cor. of tract in D. Bustillos Sur. ..... T.D. 75 ft.; drlg.

M. L. Howard's No. 1 James Watson, 500 ft. from W line, 2,000 ft. from S line, Sec. 16, B. Martinez Sur., 12 miles S from San Antonio ..... T.D. 2,535 ft.; standing.

O. W. Killam's No. 1 Wood-Welder, 9,260 ft. from E line, 3,540 ft. from S line of Sur. No. 102 ..... Derrick.

C. J. LeCompte's No. 3 R. Diaz, 150 ft. from S and E lines of 30-ac. tract, Diaz farm lots, Nos. 1 and 2.. T.D. 1,450 ft.; drlg.

C. J. LeCompte's No. 4 R. Diaz, 324 ft. NE of No. 1.... T.D. 320 ft.; S.D.

Motes-Campbell's No. 1 Pruitt, 550 ft. NE of Trussells' No. 1 Pruitt, 54 varas from E line of tract in Samuel McCullough Sur. ..... T.D. 1,065 ft.; S.D.

Motes-Campbell's No. 1 Stumberg, 990 ft. from N line, 450 ft. from W line of F. Rolen Sur. No. 48 ..... T.D. 1,135 ft.; pumping.

Motes-Campbell's No. 2 Stumberg, 450 ft. from N line, 450 ft. from W line of S. Stumberg 140-ac. tract in F. Rolen Sur. No. 48 ..... T.D. 160 ft.; drlg.

George L. O'Neill's No. 1 Neimann in Juan Montez Sur. No. 6 ..... Spudded in.

Fred Perrenot's No. 1 Ruiz, SE cor. of 82-ac. tract in F. Rowland (Rolen) Sur. No. 48 ..... T.D. 600 ft.; to set 8-in. csg.

H. A. Pagenkopf's No. 1 G. A. Goeth, 500 ft. from SE line, 600 ft. from SW line which is San Antonio River, Juan Montez Sur. ..... T.D. 960 ft.; S.D.

Earl A. Post's No. 3 J. F. and F. X. Bilharts, 150 ft. from N and E lines of S 200 acres of 385-ac. tract in F. Boles Sur. ..... Moving in rig.

Roe & Day's No. 2 City Nat'l. Bank, 150 ft. from N and W lines of tract in I. Perez Sur. No. 15 ..... T.D. 200 ft.; drlg.

O. L. Ray's No. 1 Thos. Dillon, 2,500 feet from NW line, 1,750 ft. from most southerly SW line of de Luna grant in southern part of county ..... T.D. 680 ft; standing.

C. A. Smith's No. 1 Palfrey ..... Showing some oil

C. A. Smith's No. 1 Henry Lamb, 750 ft. from N and E lines of Lamb farm, in de la Garza grant ..... T.D. 480 ft.; drlg.

F. E. Tegler's No. 1 Brackenridge, 578 ft. from S line, 2,284 ft. from W line of tract in Maria Gertrudis de Alaniz Sur. ..... T.D. 1,110 ft.; drlg.

Tipton's No. 1 Gembler, 514 ft. from W line, 616 ft. from N line of 120-ac. tract in M. Gotari Sur. ..... Location abd.

Whitting's No. 1 Duval County Ranch Co., 1,511 ft. from S line, 2,143 ft. from W line of Blk. 21, of Sur. No. 196 ..... Spudded in.

BLANCO COUNTY

Blanco Development Co.'s (McGee) No. 1 A. J. Dittmar, 1,320 ft. from S line, 150 ft. from W line of George Evans Sur. No. 58, 4 miles NW of Johnson City ..... T.D. 680 ft. in lime; fishing.

Isham et al's No. 1 Lester ranch, 300 varas from N and E lines of Antonio Bandrand Sur., 8 miles NE from Johnson City ..... T.D. 132 ft. in lime; drlg.

CALDWELL COUNTY

Judge R. L. Batts' No. 2 Roebuck, 2,400 ft. from NE line, 1,200 ft. from SE line of tract in Arthur Swift Sur. ..... T.D. 2,155 ft.; coring.

WILDCAT COMES IN AT 200,000 BARRELS

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Or any Jobber

Cargill et al's No. 1 Brown, 1,600 ft. from E line, 330 ft. from S line of C. E. Brown 112-ac. tract, Dillard Cooper Sur. ..... T.D. 2,298 ft.; standing.
E. L. Hope and Joe Cole's No. 1 Mike August, 150 ft. from NE line, 166 ft. from NW line of tract ..... T.D. 1,598 ft.; C.O. hole.
F. L. Thomson's No. 2 Lawler, 150 ft. from NW line, 450 ft. from SW line of road in J. H. Lawler 124-ac. tract in James Berry Sur. ..... Moving in mach.
C. J. Webster Oil & Gas Co.'s No. 2 Pulps, 150 ft. from E line, 225 ft. from S line of tract in John A. Neill Sur. ..... Set surface csg.

DE WITT COUNTY

C. B. Bunte, Inc.'s No. 1 Emil Buckhorn, SE cor. of 120-ac. tract in Andrew Lockhart Sur., 2 miles SW from Lindeneau ..... Moving in rig.
L. G. Wade's No. 1 fee, 6 mi. S from Yoakum, 520 ft. from NW line, 160 ft. from SW line of 35-ac. tract in Lavina Dunbar Sur. ..... T.D. 2,257 ft.; S.D.

DIMMITT COUNTY

Ed Anglin's No. 1 Dr. A. J. Fitch, 930 ft. from NW line, 2,100 ft. from SW line of Sec. 4 in F. Proctor Sur. ..... T.D. 1,150 ft.; running 6⅝-in. csg.; flowing S.W.

DUVAL COUNTY

Clark & Miller's No. 1 R. Lopez, 150 ft. from N line, 330 ft. from W line of Sur. 141, S. C. I. Co., 8 miles SW from San Diego ..... T.D. 2,515 ft.; abd.
M. J. Coffey's No. 1 Parr, 591 ft. from W line, 270 ft. from N of NW cor. of Sec. 2, located in Sur. 27 ..... T.D. 1,710 ft; abd.
T. J. Conway and C. A. Campbell's No. 1 W. K. Hoffman, 300 ft. from NW line, 1,650 ft. from NE line of Sur. No. 114 ..... T.D. 1,965 ft. in Jackson.
DeSoto Oil Co.'s No. 2 Wood-Welder, 660 ft. E of No. 1 (850 ft. from N line, 1,640 ft. from W line of Sur. No. 211 ..... T.D. 2,310 ft.; drlg.
Eaton et al's No. 1 Herbst, 1,650 ft. from E line, 330 ft. from S line of S.A.&M.G. Sur. No. 71 .... Comp. wtr. well; getting ready to spud.
Huff et al's No. 1 A. Rosch 685 ft. from E line, 43 ft. from S line of Blk. 7, Sur. No. 457 ..... Abd. location.
S. B. & H. Oil Co.'s No. 1 Hunter, 330 ft. W of CEL of J. Poitevant Sur. No. 515 ..... T.D. 1,950 ft.; drlg.
William B. Stewart's No. 3 Duval County Ranch Co., 660 ft. from E line, 330 ft. from W line of S half of SE. Sur. 363 ..... T.D. 2,157 ft.; comp. as No. 1-B Reynosa.

FRIO COUNTY

Amerada Pet. Corp.'s No. 1 Frank Doering, 24 ft. from W line, 1,700 ft. from S line of Tract No. 7 in Maria Louisa Carranza Sur. No. 307 ..... T.D. 1,594 ft.; drlg.
J. E. Greenlee's No. 2 Burns, 150 ft. from W line, 1,800 ft. from S line of SE of 160-ac. tract, Castro Sur. No. 123 ..... T.D. 2,390 ft.; standing.

GILLESPIE COUNTY

Powers et al's (Nixon-Dore) No. 1 Andrew Lindig, 18 mi. E of Fredericksburg ..... T.D. 920 ft.; standing.

GOLIAD COUNTY

Gillette Oil Co.'s No. 1 Lackey & Weldon, 1,730 ft. from NE line, 2,700 ft. from SE line of 1,000-ac. tract. Navarro Gomes Sur. ..... T.D. 3,673 ft.; coring ahead.

GUADALUPE COUNTY

Clint Lanier's No. 1 L. D. Hill, 450 ft. from NW line, 1,450 ft. from NE line of George Allen Sur. ..... T.D. 503 ft. in shale.
J. A. Harper's No. 1 Rosenbrock, 911 ft. from NE line, 150 ft. from NW line of tract in Vincente Duran Sur. No. 4 ..... T.D. 756 ft.; abd.

HIDALGO COUNTY

Carl & Johnston's No. 1 Doughty, 127 ft. from S and E lines of Lot 11, Blk. 5 of subd. of Indios Ranch Sur. in N. Hidalgo ..... T.D. 3,040 ft.; S.D.
Chancellor & Hall's No. 1 Garcia Land & Cattle Co., 150 ft. from W line of Porcion 42 and 150 ft. N of old Military Highway ..... T.D. 3,010 ft.; drlg.
Maxwell & Young's No. 1 King, 175 ft. from N and E lines of Lot 3, Blk. 16, Alamo tract ..... T.D. 825 ft.; drlg.

JIM HOGG COUNTY

Cole Pet. Co.'s No. 1 Vela and Pena Bros., 330 ft. from W line and on line between Blks. 30 and 31, White Subd. of Share 2, Sur. 588, of El Peyote grant ..... T.D. 2,664 ft.; drlg. hard rock.
D. C. DeWitt's No. 1 A. G. Lopez, 2,475 ft. from W line, 425 ft. from N line of Sur. No. 106 ..... T.D. 1,650 ft; standing.
R. F. Force's No. 1 Holbien, 150 ft. from N and W lines of Blk. 54, Sec. 9 of Holbien Sur. of Share 3 of Las Animas grant ..... T.D. 3,160 ft.; standing.
Shankle et al's No. 1 Thompson, Blk. 19, Share 3, Las Animas grant ..... T.D. 2,810 ft.; abd.

KARNES COUNTY

Accumulative Royalty Co.'s No. 1 Rudd, 4 mi. S from Karnes City ..... T.D. 3,100 ft.; abd.; skidding rig.
Karnes Co. Dev. Co.'s No. 1 S. Saige, 150 ft. E of C of W line of Wm. Pate Sur. ..... T.D. 1,635 ft.; abd.

KENDALL COUNTY

E. W. Martin's No. 1 Houston, in F. Wright Sur. ..... T.D. 978 ft.; fishing for bailer.

KERR COUNTY

J. E. Anderson's No. 1 J. D. Witt, 1,320 ft. from N line, 1,320 ft. from W line of Sec. 1,933, in Hamilton Sur., 4 miles S of Center Point ..... T.D. 1,800 ft.; standing.
W. E. Clark's No. 1 Love, 660 ft. from N and W lines of Mrs. Cassandra Winn Sur. No. 1,759 ..... Rigging up.
Evans & Gant's No. 1 Love, 660 ft. S of S line of Sur. 1,597, 1,320 ft. from W line of Sur. 1,594 ..... T.D. 4,060 ft.; rigging up to deepen.

LA SALLE COUNTY

Pacific Gulf Oils and C. B. Bunte's No. 1 Lastinger, C of NE of Sec. 507 ..... Moving in rig.
W. H. Wallace's No. 1 H. C. Yeager, 150 ft. from S and E lines of Sur. No. 96 ..... T.D. 1,494 ft.; in sand at 1,485-94 ft.; previously by mistake reported abnd.

LIVE OAK COUNTY

Coquat, O'Neill & Phillips' No. 3 Sanger, 2,930 ft. from SW line, 330 ft. from SE line of Sur. No. 350..... T.D. 400 ft.; S.D.
Sheldon & Snider's No. 1 E. Terrell, 1,000 ft. from S and E lines in E. Jurdin Sur. ..... T.D. 500 ft.; drlg.
R. P. Whitfield's No. 1 Terrell, SW cor. of 2,500-ac. tract in David O'Boyle Sur., 5 mi. NW from Three Rivers ..... T.D. 950 ft.; abd.

MAVERICK COUNTY

Wright & Stroman's No. 1 DeBona, SE cor. of No. 1.... T.D. 740 ft.; C.O.

McMULLEN COUNTY

John V. Edwards' No. 1 J. T. Brown, 150 ft. from river, 150 ft. from NW cor. of Brown tract, E from Calliham ..... T.D. 900 ft.; S.D.
French Oil Corp.'s No. 1 Two Rivers Ranch, 330 ft. from N, 1,650 ft. from W line of 640-ac. tract in Sec. 66 ..... T.D. 1,048 ft.; top of Mirando sand; S.W.
McDowell & Vierson's No. 1 Jefferson, 330 ft. from N, 990 ft. from W line of 640-ac. tract in Sur. No. 93.. Spudded in.
Shumway et al's No. 1 Wulf, Sur. 4 miles SE from No. 2 Shiner, 1,780 ft. from S line, 167 ft. from W line of Steinhardt Sur. No. 190 ..... T.D. 2,072 ft.; S.W. in Gov. Wells sand; drlg. deeper.
S. B. & C. Oil Corp.'s No. 1 Reeves, 1,650 ft. from S line, 330 ft. from E line of Francis Smith, No. 4 Sur. ..... T.D. 1,710 ft.; coring for Gov. Wells sand.
H. A. Suttle's No. 1 Lark, 150 ft. from N and W lines of Blk. 16, in E. W. B. Scrugham Sur. ..... Spudded in; set surface csg.
Whisenant & Trenchard's No. 1 Martin, 990 ft. from NE line, 330 ft. from SE line of Sur. No. 158 ..... Spudded in.

MILAM COUNTY

Ed Clark et al's No. 1 Thomas Graves, 250 ft. from SW and NW lines of Jackson Hall Sur. ..... T.D. 802 ft; standing.
Clark et al's No. 1 Hoppe, 450 ft. from NE line and 450 ft. from SE line of E. Hoppe 60-ac. tract in Juan Jose Acosta Sur. ..... T.D. 630 ft.; standing.

SAN PATRICIO COUNTY

George W. Scruggs' No. 1 Collins, 1,040 ft. from NE line, 700 ft. from SE line of Blk. 36, E. J. McGloin Sur. ..... T.D. 2,754 ft; changing to heavier rig.

STARR COUNTY

S.&B. Oil Co.'s No. 1 Crown Brick & Tile Co., 1,800 ft. S of State Highway No. 4 and 580 ft. from W line of Porcion 87, near La Puerta ..... T.D. 4,560 ft; fishing.
W. P. Chancellor's No. 1 A Guerra, 26,000 ft. from S line, 3,600 ft. from E line of Share No. 6 of San Jose Grant Sur., NE cor. of county ..... T.D. 2,640 ft.; drlg.
F. R. Cooper's No. 1 J. M. Martinez, 150 ft. to S and E lines of A.B.&M. Sur. No. 138 ..... T.D. 3,193 ft.; standing.
Great Plains Oil Co.'s No. 1 Sanchez, 660 ft. from W line, 330 ft. from S line of SE NW of Sur. No. 344 .. T.D. 2,350 ft.; drlg.
Jeffries and Lambeth Drlg. Co.'s No. 1 Starr County Cattle Co., 11,572 ft. from N line, 2,490 ft. from E line of Porcion 89, Sur. jurisdiction Camargo, 8 miles NE from Rio Grande City ..... T.D. 2,460 ft.; comp. 25,000,000 ft. gas; shut in pressure 960 lbs.; sand 2,450-55 ft.
Goodwin & Yantis' No. 1 Kelsey Bass, 150 ft. from S and E lines of Blk. 8, Coast O. & G. Subd. of Secs. 2 and 3, Porcions 86-87 ..... Rigging up for 3,500-ft. test.
Goodwin & Yantis' No. 1 Seabury, 150 ft. from S and W lines of Sec. 107, Share No. 1, Porcion No. 107..... T.D. 2,095 ft.; drlg.; depth reported an error.
R. D. Perkins & Hoffman's No. 1 E. A. Peffler, 3,000 ft. from W line, 2,480 ft. from S line of Sur. 923.. Derrick; moving in machinery.
W. R. Shankle's No. 1 Garcia, 150 ft. from SW and NW lines of Blk. 33, Subd. N of Porcion No. 90.... Rigging up.

TRAVIS COUNTY

Franklin et al's No. 1-A Reimers, 1,200 ft. from SE line, 1,600 ft. from most southerly SW line of Sur. No. 35 ..... T.D. 461 ft.; S.D. in shale.
Holdin's No. 1 D. V. Collins, 6,192 varas from SE line, 10,440 varas from SW line of Santiago de Valle Grant Sur. ..... T.D. 810 ft; standing.
Watson, Johnson & Brady's No. 2 Brady ..... T.D. 1,095 ft.; S.D. in lime.
Weaver & Osborn's No. 1 Will Reinhardt, 300 ft. from NW line, 1,200 ft. from NE line of Will Reinhardt 100-ac. tract in William Lewis, Jr., Sur. 2.... Rigging up.

UVALDE COUNTY

Evans & Thompson's No. 1 Farris, 400 ft. from S and W lines of 638-ac. tract near center of John J. Hammond Sur. ..... T.D. 300 ft; renewing leases to correct title.
John Roberts' No. 3 Kincaid ..... T.D. 335 ft.; drlg.

WEBB COUNTY

Danvers & Harrison's No. 1 Benavides, 2,490 ft. from E line, 2,497 ft. from S line of Sur. No. 669 ..... T.D. 1,600 ft.; drlg.
Danvers & Harrison's No. 1 Benavides, 2,490 ft. from S and E lines of Sur. No. 669 ..... Spudded in.
Edwin M. Jones' No. 2 Callaghan, 330 ft. from S and E lines of C.C.S.D.&R.G.N.G. R.R. Sur. No. 1,211.... Rigged up and standing.
Merle Gunby's No. 1 A. M. Bruni, 1,252 ft. from W line, 328 ft. from S line of Sur. No. 357 ..... Spudded in with spudder.
Grey Oil Corp.'s No. 1 A. S. Billings, 2,310 ft. from N line, 330 ft. from W line of Blk. 1, C.C.S.D.&R.G. N.G. Sur. No. 13 ..... T.D. 1,600 ft.; drlg.
Will Ohlhausen's No. 1 Moses Jones, 275 varas from E line, 516 varas from S line of 100-ac. tract in Sur. No. 1,640 ..... T.D. 350 ft.; standing.
Washabaugh & Roberts' No. 1 Bruni, 1,170 ft. from NE line, 150 ft. from NW line of E½ of 160-ac. tract in Sur. 139 ..... T.D. 2,140 ft.; standing.

WILLIAMSON COUNTY

Alexander Drlg. Co.'s No. 1 J. & G. Kreig ..... T.D. 800 ft.; drlg.
Wilson, Worley & Moore's No. 1 Mrs. M. E. Olive ..... T.D. 41 ft.; set 10-in. surface csg.
R. S. Wilson's No. 1 Ritchey, 1,200 ft. from SE line, 300 ft. from NE line of F. B. Ritchey 98-ac. tract in Simon Miller Sur. ..... T.D. 1,380 ft; drlg. shale.

ZAPATA COUNTY

J. C. Charver's No. 1 Bustamente, 330 ft. from N and E lines of 24-ac. tract in Share 24 of Las Comitas grant ..... T.D. 250 ft.; drlg.
Hamilton, Brower & Crow's No. 1 Slator, 2,111 ft. from SW line, 1,980 ft. from SE line of Blk. 1, Subd. of Slator ranch in J. V. Borrego grant ..... T.D. 1,069 ft; standing.
Circle W. Oil Co.'s No. 1 M. Garza est., 623 ft. from NW line and 699 ft. from SW line of Blk. 30, C. A. Douglas Subd. of Charco de la India grant ..... Rigged up; standing.
J. P. Doyle's No. 1 I. Ramirez, 150 ft. from NW and SW lines of Blk. 15, Share 1, Porcion 18 ..... Spudded in and S.D.
O. W. Killam's No. 2 A. M. Bruni, 750 ft. from SE line, 160 ft. from SW line in Blk. 6, Sur. No. 15.... Drlg. 1,800 ft.; abd.
Sarah Poppas' No. 1 Juan V. Cueller, Jr., 150 ft. from NE and SE lines of Blk. 3, Sur. 3 of Poppas Subd. of Por. 34 ..... T.D. 800 ft.; standing.
C. Savey et al's No. 1 Fieres, 150 ft. from NW line, 306 ft. from NE line of Blk. 1, Share 1 of P. A. Richer Subd. of Porcion No. 36 ..... T.D. 2,404 ft; standing.
Stevens & Brown's No. 1 Alexandro Garcia, 660 ft. from SW line, 660 ft. from NW line of Blk. 6, Stevens & Brown Subd. of W 700 acres, Charco Redondo grant, A. Garcia tr. 16 miles SE of Zapata ..... T.D. 1,350 ft; standing.
Arthur H. Wray's No. 1 Gopher Trust Est., 300 ft. from NW line, 1,020 ft. from SW line, Blk. 14, Sur. 1, Fullerton Subd., Share 5, in J. V. Borrego Grant Sur. ..... Waiting on wtr.

ZAVALA COUNTY

Zavala O. & G. Co.'s No. 1 Gates, 1,320 ft. from N line, 1,320 ft. from E line of Hooper & Wade Sur. No. 13.. T.D. 6,054 ft; hole cleared; standing.

Southwest Texas Proven Areas

Week Ending August 19

CEDAR CREEK POOL—BASTROP COUNTY

Company, well, farm name, section and block—	Remarks
Marts & Beavens' No. 3 Reyes, 754 varas from NW ... 1,...90 varas from SW line of Addison Litton Sur. No. 1	Set 1 joint surface csg.
Marts & Bevens' No. 3 Reyes, 754 varas from NW line, 1,300 varas from SW line of Addison Litton Sur.	Drlg. below surface csg.
Joe Mills' No. 1 Noss, 400 ft. to E line, 150 ft. S of 75-ac. tract in Addison Litton Sur. ..... T.D. 500 ft.; drlg. shale.	

HILBIG POOL—BASTROP COUNTY

Humble Oil & Refining Co.'s No. 3 E. Wilhelm, 350 ft. from E line, 325 ft. from S line of 222-ac. tract in Wolfenbarger Sur. ..... T.D. 2,305 ft; comp. 52 bbls. hrly.

NORTH DALE POOL—BASTROP COUNTY

Chiquita Oil Co.'s No. 2 M. I. Harris, 300 ft. NW of No. 1, J. Maxmilian Sur. ..... T.D. 2,175 ft.; running tubing.
Ogden & Reed's No. 1 Spradlin, 300 ft. from S line, 200 ft. from E line of 113-ac. tract in Grey Sur. .. Rigged up; standing.

RIDDLE POOL—BASTROP COUNTY

Floyd Dodson's (and Muckelroy) No. 1 Durm, 45-ac., 300 ft. from NE line, 1,440 ft. from SE line of 100-ac. tract, Flynt Sur. ..... T.D. 2,424 ft.; S.D.

Ogden & Reed's No. 1 Talley, 150 ft. from NW line, 1,350 ft. from SW line of John Maxmillian Sur. ....T.D. 2,127 ft; treated with 3 drums acid; standing.

Ogden & Reed's No. 1-A C. L. Riddle, 1,225 varas from NE line, 288 varas from NW line of Maxmillian Sur. ....T.D. 2,276 ft; pumped 1 bbl. dly; to treat with more acid.

PETTUS POOL—BEE COUNTY

Mauldin's No. 4 fee, 420 ft. NE of No. 3, ⅛ mile S from Pettus townsite ....T.D. 3,880 ft.; drilled plugs.

TULETA POOL—BEE COUNTY

Grisham et al's No. 1 Rapp & Hatch, 1,700 ft. from N line, 2,640 ft. from E line, Sec. 13 of Ragsley's Subd. of Uranga grant .... T.D. 4,393 ft.; P.B. to 4,388 ft.; comp. 125 bbls., 65% sulphur.

ECKERT POOL—BEXAR COUNTY

Gatlin Oil Co.'s No. 16 I. A. Beck, 300 ft. from NW of No. 2 Beck ....Spudded in.

J. F. Harrison's No. 1 F. Gembler, 150 ft. from NW line, 460 ft. from NE line of 88-ac. tract in J. Montes Sur. ....T.D. 435 ft.; resumed drlg.

McDaniel & Wood's No. 1 A. C. Gembler, 150 ft. from N and W lines of 40-ac. tract, Gotari Sur. .... Abd.

NORTH KOHLER POOL—DUVAL COUNTY

Allen & Morris' No. 1 G. W. Sutherland, 165 ft. from N line, 165 ft. from W line, SW NE of Sur. 188....T.D. 2,500 ft.; drlg.

NORTH GOVERNMENT WELLS POOL—DUVAL COUNTY

Central Producers, Inc.'s No. 7 Tuck & Johnson, 330 ft. from S and W lines of SE SW of Sur. No. 42 .....Rigging up.

Hester Bros.' No. 1 fee, 330 ft. from S and E lines of NE of Sur. No. 47 .... T.D. 200 ft.; fooling around.

Humble Oil & Refining Co.'s No. 9 Hahl, 330 ft. from S line, 938 ft. from W line of E half of Sur. No. 360 ....T.D. 2,310 ft.; comp. 75 bbls.

Humble O. & R. Co.'s No. 1 Duval County Ranch Co., 330 ft. from S and W lines of NW cor. Sur. No. 362.. Rigging up.

Humble O. & R. Co.'s No. 10 Hahl, 330 ft. from most southerly N and W lines of Sur. No. 74 .... T.D. 2,285 ft.; W.O.C.

Navarro Oil Co.'s No. 27 Hahl, 660 ft. N of No. 26 in Sur. No. 360 ....T.D. 2,292 ft.; P.B. to 2,282 ft.; comp. 72 bbls. daily, 1% S.W.

Reynosa Oil Co.'s No. 8 Hahl, 330 ft. from S and E lines of N½ of NE of No. 42 ....T.D. 2,295 ft; comp. 35 bbls. hrly.

Reynosa Oil Corp.'s No. 1 Duval County Ranch Co., 330 ft. from N and W lines of N½ of SW of Sur. No. 362 ....T.D. 2,269 ft; comp. 400 bbls. dly.

Reynosa Oil Corp.'s No. 2-A Duval County Ranch Co., 330 ft. from S and W lines of N½ of SW of Sur. No. 362 ....T.D. 2,255 ft.; set csg.; W.O.C.

Southwest Drlg. Co.'s No. 12 Wendt, 660 ft. N of No. 11, and 660 ft. W of No. 10, in Sur. No. 48....T.D. 2,273 ft.; comp. 100 bbls.

Smith & Storey's No. 4 Lundell, 150 ft. from S and E lines of SW of NE in Sur. No. 48 .... T.D. 2,282 ft.; swabbing.

SARNOSA POOL—DUVAL COUNTY

L. W. Capps' No. 5-A Duval Ranch Co., 306 ft. from SW line, 330 ft. from SE line of W¼ of Sur. 574....T.D. 2,424 ft; comp. 100 bbls. dly.

Sarnosa Oil Corp.'s No. 15 Well ....T.D. 2,424 ft.; comp. flowing 100 bbls. daily.

Sarnosa Oil Co.'s No. 9 A. Well, 2,154 ft. from NW line, 330 ft. from NE line of No. 130 Sur. .... Location abd.

Sun Oil Co.'s No. 5 Cano, 1,141 ft. from NE line, 330 ft. from SE line of E½ of No. 576 ....T.D. 2,419 ft; comp. 100 bbls. dly.

Sun Oil Co.'s No. 6 Cuellar, 720 ft. from SW line, 330 ft. from SE line of E½ of Sur. No. 576 .... T.D. 2,391 ft.; set csg.; W.O.C.

Texas Co.'s No. 4 W. C. Riggs, 990 ft. from S line, 330 ft. from E line of E½ of NW of Sur. No. 46 . T.D. 2,250 ft.; drlg.

Texas Co.'s No. 4-A Duval County Ranch Co., 330 ft. from SE line, 412 ft. from SW line of N¼ of Sur. No. 574 ....T.D. 2,453 ft.; set surface csg.; W.O.C.

PETERS POOL—DUVAL COUNTY

R. F. Duggan's No. 1 Sutherland, 1,307 ft. from E line, 4,186 ft. from S line of Sur. No. 187 .... T.D. 2,701 ft.; abd.

SANDIA POOL—JIM WELLS COUNTY

Crude Oil Royalty Co.'s No. 1 Allen, 150 ft. from N and E lines of Blk. 2, Subd. of Wade ranch .....T.D. 2,648 ft; standing.

NORTH PETTUS POOL—KARNES COUNTY

Begol Oil Co.'s (Gulf Coast Oil Co.) No. 6 McKinney....T.D. 3,100 ft.; drlg.

Magnolia Pet. Co.'s No. 2 Porter-State, 680 ft. E of No. 1 Porter, 24 ft. from W line, 1,650 ft. from S line in M. A. Porter Sur. .... Rigged up.

JACOB POOL—McMULLEN COUNTY

Loma Oil Co.'s No. 15-A Jacob, 660 ft. N of No. 14 Jacob ....T.D. 950 ft.; set csg.; drill in Saturday.

Longhorn Oil Co.'s No. 3-A Lark, 450 ft. from N line, 150 ft. from W line of Blk. 14, of Subd. of Lark land in E. W. B. Scrugham Sur. ....T.D. 300 ft.; drlg.

Kannon & Stephenson's No. 1 Lark, 150 ft. from N and W lines of Blk. 15, subd. of Lark land in E. W. B. Scrugham Sur. ....T.D. 1,033 ft.; set csg.; W.O.C.

KING POOL—NUECES COUNTY

John F. Camp's No. 1 King, 150 ft. from N and W lines of E½ of Sec. 29, of Richard King Subd. .....T.D. 5,890 ft.; drlg.

MATHIS POOL—SAN PATRICIO COUNTY

Geo. W. Scruggs' No. 1 Collins ....T.D. 2,756 ft.; changed to heavier rig.

LAUREL POOL—WEBB COUNTY

M. Stein's No. 2 Garcia-Villareal, 300 ft. from NW line, 810 ft. from SW line of SW SW of Sur. 720..Dup. of Teagle's No. 2 Garcia-Villareal.

Smith & Storey's No. 2 Sarah Lloyd, 70 ft. from E line, 150 ft. from S line of Blk. 14, Sur. No. 23....T.D. 1,900 ft.; drlg.

E. A. Tasgel's No. 2 Garcia-Villareal, 330 ft. from NW line, 810 ft. from SW line of SW SW Sur. No. 720 T.D. 2,434 ft.; comp. 20 bbls. dly.

MOCA POOL—WEBB COUNTY

Moca Oil Co.'s No. 6 Duval County Ranch Co., 1,360 ft. from N line, 320 ft. from W line of Blk. 33, of Zapata County School Land Sur. .... Moving in rig.

ESCOBAS POOL—ZAPATA COUNTY

Texas Co.'s No. 24 Meanles, 2,051 ft. from SE line, 17,334 ft. from SW line of Cerrito Blanco grant....Comp. 50 bbls. daily.

JENNINGS POOL—ZAPATA COUNTY

United Prod. Corp.'s No. 11 Meanles, 3,483 ft. from NW line, 16,500 ft. from SW line of Cerrito Blanco grant .... Spudded in.

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O.G.J. 8-24-33

NATURAL GAS DEVELOPMENTS

Oklahoma Natural Gas to Appeal Upon Receivership

A receiver has been appointed for the Oklahoma Natural Gas Corp. by Judge Franklin Kennamer of Federal court who stayed the order for five days pending filing of a $100,000 supersedeas bond. The court named A. E. Bradshaw, vice president of the First National Bank & Trust Co., as receiver and set his bond at $50,000.

This action followed two months of litigation. Approximately 175 shareholders of cumulative 6½ per cent preferred stock filed the receivership action and charged that the company was mismanaged, extravagant and failed to observe agreements made with certain stockholders relative to repurchasing the stock if the original buyer was dissatisfied with this investment.

Witnesses for the gas company refuted the charges of the plaintiffs and introduced testimony to the effect that whatever losses the company had suffered in recent years were due, not to mismanagement, but to a national economic condition.

The receiver will not take charge of the company's assets until the decision is finally settled by the Tenth U. S. Circuit Court of Appeals at Denver. The company in the meantime will continue to operate under the present management, which was forbidden to execute any liens or mortgages or obligate any of the company's funds without the court's permission.

North American to Build Extension to Twin Cities

AMARILLO, Tex., Aug. 21.—The North American Oil & Gas Co. with a 24-inch gas pipe line extending from the Panhandle Field to points in Iowa and Nebraska, announces a 60-mile extension from Owatana, Minn., to St. Paul with an 18-inch line to serve the Twin Cities, Minneapolis and St. Paul with natural gas for industrial purposes and mixed gas for domestic use.

The Fredell Construction Co. of Amarillo has the contract and will start work immediately. The extension will increase the load 20,000,000 feet daily.

Minneapolis and St. Paul have long been prizes sought by servicing companies and the announcement of the North American, known there as the Northern Gas & Pipe Line Co. is not unexpected.

KANSAS RATE CHANGES

TOPEKA, Kans., Aug. 21.—The state corporation commission has approved the following rate changes:

A reduction in the gas rate at Columbus by the American Gas Co. Monthly service charge of 75 cents is discontinued with new rates which cut 40 cents from the first 1,000 feet of monthly consumption and 15 cents a thousand feet from above 10,000.

A cut from $1.50 to $1.25 charged by the Public Service Co. of Kansas on the first 1,000 feet of gas consumed in Ashland, Coldwater, Cullison, Haviland, Pratt and Protection.

Reduction in rates charged by the Peoples Gas Co. at St. John, Stafford and Greensburg, from $1.50 to $1.25 for the first 1,000 feet with an additional small reduction for domestic and commercial consumption above 40,000 feet.

DALLAS GAS REPLACEMENTS

About $40,000 in main replacement work is under way by the Dallas Gas Co., and according to R. M. Redding, general superintendent, this will be increased to $110,000 by the end of 1933.

Code for Natural Gas Indusy Submitted to National Recovery Administration

WASHINGTON, D. C., Aug. 21.—The code for the gas industry as submitted by the American Gas Association reads as follows:

Purpose

The declared purpose of this code is to effectuate the policy of Title 1 of the National Industrial Recovery Act during the period of emergency.

Definition

The American Gas Association affirms that it imposes no inequitable restrictions on its membership and participation in its activities and it is truly representative as a national association of the gas industry of the United States.

The term "employer" as used herein includes every person, firm or corporation engaged as a public utility in producing, and/or transmitting or distributing manufactured and/or mixed gas.

1

Labor Provisions: As required by Section 7 (a) of Title 1 of the National Recovery Act, the following provisions are conditions of this code:

1. Employes shall have the right to organize and bargain collectively through representatives of their own choosing, and shall be free from the interference, restraint or coercion of employers of labor or their agents in the designation of such representatives or in self-organization or in other concerted activities for the purpose of collective bargaining or other mutual aid or protection.

2. No employe and no one seeking employment shall be required as a condition of employment to join any company union or to refrain from joining, organizing or assisting a labor organization of his own choosing; and

3. Employers shall comply with the maximum hours of labor, minimum rates of pay and other conditions of employment approved or prescribed by the President.

2

Child Labor: After August 31, 1933, no person under 16 years of age shall be employed, except that persons between 14 and 16 years of age may be employed for not to exceed three hours a day and those hours between 7 a.m. and 7 p.m., in such work as will not interfere with hours of day school.

3

Hours of employment and wages:

(a) No employe shall work for more than an average of 40 hours per week during any six weeks period, except those specified in Paragraph (b).

(b) Load dispatchers, well operators, station operators, and emergency maintenance and repair employes, their attendants, crews and helpers, if highly trained and not readily replaceable, whose duties must be continuously performed in order to render the public a safe and continuous service, may be employed not in excess of 48 hours per week, so long as other competent employes are not readily available for such work, and in emergencies such employes may work more than 48 hours per week, but in no case shall the hours worked exceed an average of 48 hours for six consecutive weeks. All employers subject to this code shall proceed with the training of additional employes as rapidly as is consistent with the rendition of safe and continuous service, so that by March 1, 1934, as many employes as may be reclassified under the 40 hours per week limitation; and report shall be made on said date of the extent of such reclassification to the National Recovery Administration.

(c) The maximum hours fixed in the foregoing paragraphs shall not apply where not more than two persons are employed in communities of less than 2,500 population, which communities are not part of a larger trade area; nor to employes engaged on emergency work; nor to outside salesmen; nor to employes in a managerial, executive, administrative or supervisory capacity, who now receive more than $35 a week. Population for the purposes of this agreement shall be determined by reference to the 1930 Federal census.

(d) Employes shall be paid at the rate of:

(1) Not less than $15 a week in any city of over 500,000 population or in the immediate trade area of such city;

(2) Not less than $14.50 a week in any city between 250,000 and 500,000 population or in the immediate trade area of such city;

(3) Not less than $14 a week in any city between 2,500 and 250,000 population or in the immediate trade area of such city, and

(4) In towns of less than 2,500 population all wages shall be increased by not less than 20 per cent, provided that this shall not require wages in excess of $12 a week.

(5) This paragraph shall apply to all employes, except those covered by the provisions of the following Paragraph (e).

(e) Employes of the classes who on July 1, 1933, were paid on an hourly rate shall be paid not less than 40 cents per hour, unless the hourly rate for the same class of work in July 15, 1929, was less than 40 cents per hour, in which latter case the rate of pay shall not be less than the July 15, 1929, hourly rate of pay and, in any event, shall not be less than 30 cents per hour; provided that learners may be paid not less than 80 per cent of the minimum wage rate provided in the above schedule, but the total number of learners shall not exceed 5 per cent of the total number of employes employed by any employer subject to this code.

4

Application: If any employer of labor in this industry is also an employer of labor in any other industry, the provisions of this agreement shall apply to and affect only that portion of his business which is included in this industry.

5

Administration: The American Gas Association is hereby designated the agency for administering, supervising and promoting the performance of the provisions of this code by the members of the manufactured and mixed gas public utility industry.

In order to keep the President of the United States and the administrator informed as to the observance or non-observance of this code, each employer shall prepare and file with the statistical department of the American Gas Association at such times and in such manner as may be prescribed, statistics covering the number of persons employed, wage rates, earnings, hours of work and such other data or information as the recovery executive committee may from time to time require.

Any employer may participate in this code and in any revisions or additions thereto by signifying his intention and accepting the proper pro rata share of the cost and responsibility of creating and administering it, either by becoming a member of the American Gas Association or by paying to it an amount equal to the dues from time to time provided to be paid by a member in like situation of the American Gas Association.

6

Amendments: Such of the provisions of this code as are not required to be included therein by the National Industrial Recovery Act may, with the approval of the President, be modified or eliminated as changes and circumstances or experience may indicate.

This code shall become effective when approved.

Politics in Rate Case Lone Star Co. Charges

AUSTIN, Tex., Aug. 21.—Charges that political consideration have inspired demands for lower gas rates in many Texas towns are made in a brief filed with the Railroad Commission by attorneys for the Lone Star Gas Co. The brief was presented in the case involving city gas rates of the company.

The company attorneys insist politicians in many towns served by the concern are willing to see the company's property confiscated by unreasonably low rates in order to benefit their own political fortunes. The brief explains many points of difference between the figure of $46,810,134 set by the commission's engineers as the value of the company's property and the valuation of $73,927,635 as determined by the company's engineers. The two sets of engineers are in almost complete agreement on the physical inventory of the property, but are widely separated on what is would cost to reproduce the property in a new condition.

Much of the difference between the two valuations, company attorneys insist, is due to lack of experience in gas pipe line construction on the part of the commission's engineers.

Western Gas Co. to Begin Laying Line to Phoenix

TUCSON, Ariz., Aug. 21.—The Western Gas Co. expects to start laying pipe within two weeks on its 253-mile gas line, connecting with the western terminus of the Lea County, New Mexico, El Paso to Douglas, Ariz., gas line, at Douglas, Ariz., to convey natural gas into Tucson and Phoenix, Ariz., at a cost of about $2,000,000 advanced by the Reconstruction Finance Corp. The gas rate in these cities has been cut 30 per cent.

PLAN ALABAMA LINE

Clanton, Ala., having granted a franchise for natural gas to the Tri-County Utilities Co., the company is reported planning a line from the Southern Natural Gas Co.'s main line to Clanton, a distance of about 35 miles, from the main line between Robinson Springs and Coosada. Other towns to be served are Elmore, Speigner, Deatsville, Wadsworth, Marbury, Mountain Creek, Verbena and Cooper.

TO LAY LINE TO MACON, MO.

Following the purchase of the Macon Gas & Electric Co., Macon, Mo., by Panhandle Eastern Pipe Line Co. of Kansas City, Mo., that company plans to construct a 25-mile gas line from Moberly to Macon.

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When these "quietest, smoothest-running Diesel engines ever built" begin making records for you in profitable, trouble-free operation, year in and year out throughout their long life, you too will want to talk about it.

De La Vergne engineers, with superior design, generous proportions and precision workmanship of the highest order, have not only achieved the maximum of Diesel efficiency known today, but they have removed the trouble centers from Diesel construction.

For instance, records on Types VA and VB engines show there has never been a crankshaft failure, no crankpin bolt failures, not a single cylinder head failure where correctly designed cooling systems have been provided, no camshaft drive failures, and bearing replacement is so exceptional that it is practically unknown.

For low cost power from now on, select a smooth, quiet De La Vergne.

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TOWER FOR SOUTH AMERICA

NEW YORK, Feb. 27.—The Lamport & Holt Line steamship Bonheur sailed from New York at the week end with the longest piece of cargo on board ever to be loaded on board a vessel in the port of New York. The shipment was a bubble tower, 113 feet in length and 5½ feet in diameter, weighing 60 tons. The tower, which is destined for the Argentine government refinery at La Plata, was shipped by E. L. Wynne, and was loaded on board the Bonheur by Merritt, Chapman & Co. The tower was manufactured by Henry Vogt Machine Co. of Lousville.

CONSIDER PLANT IN SPA...

Dress...

This clipping from Oil and Gas Journal, Issue of March 2, 1933.

113 ft. Vogt *fusion welded* Bubble Tower *and* Evaporator

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TECHNICAL QUESTIONS ANSWERED

By Charles K. Francis, Ph. D., Technical Editor

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible.

Inquiries must be signed but only the given initials will be printed. The source of the questions is considered to be confidential.

Questions requiring a discussion of patents, the use of intricate formulas, extended computations, or cost estimates cannot be considered.

When the matter is of general interest the reply will be published within a reasonable time.

Light and Heavy Oil Autogenous Ignition Temperatures

I would like to have some information about the autogenous temperatures of light, medium, and heavy lubricating oils. I have tables giving these temperatures for gasolines and kerosenes but not for the heavier oils.—J. R. C.

The oxidation of petroleum oils is too slow at normal temperatures for them to ignite spontaneously, but conforming to the general law for chemical reactions, that the rate is doubled for each increase of 18° F. The speed at high temperatures is so accelerated that when these oils are sufficiently heated and then exposed to air they burst into flame without the introduction of any outside fire.

The lower the viscosity of an oil the higher is the ignition temperature. In a general way the larger and more complex the molecular structure, such as in the more viscous lubricating oils, the easier (lower temperature) will its vapor ignite in the presence of air. An example is the fact that kerosene will ignite spontaneously in air at a lower temperature than gasoline. The danger of preignition of kerosene is recognized in the design of kerosene engines with lower compression than for a gasoline engines, the ignition point being materially lowered with increased pressure.

Lubricating oils are sometimes selected on the basis of high flash point, but such oils may be very dangerous if permitted to accumulate in the compressor cylinder because flashpoint is not a reliable guide to ignition temperature. It is important to avoid the possibility of an extensive explosion, that an oil to be used for the lubrication of an air compressor should be tested for the purpose of determining the spontaneous ignition temperature.

There are numerous conditions that have to do with autoignition, or, as it is frequently called, spontaneous ignition. Oxygen must be present. This is commonly supplied in the form of air; there must not be excessive moisture present; the material, such as oil, must vaporize under the conditions; the temperature and pressure must be adequate.

No accurate data are available for the various grades of lubricating oil, but the ignition temperature will vary with the physical and chemical properties of the oil, the general rule being that the vapors from the high boiling fractions ignite at lower temperatures than the low boiling ones.

Gurwitsch-Moore, Petroleum Technology, new edition, page 74, gives the following results from Holm's work:

SPONTANEOUS IGNITION TEMPERATURE IN AIR

Product—	Temp. °F.
Gasoline	780 to 860
Lubricating oil	716 to 770
Benzene	968

Autoignition temperatures may be determined by several methods, the better known are:

(a) Explosion of gaseous mixtures by adiabatic compression.

(b) Explosion under different initial pressures by gradually heating.

(c) Mixing streams of gas and air of known temperature.

(d) Dropping a liquid fuel onto a hot surface.

The hot surface method as used by Moore, J. Inst. Pet. Tech. 6, 186, 1920, is widely used because of its simplicity. A heated cup, into which a stream of air is passing, is used.

References: Catalytic Oxidation in the Vapor Phase, Marek-Hahn; Petroleum Technology, Gurwitsch-Moore; Chemical Refining of Petroleum, Kalichersky-Stagner.

Best Solvents For Removing Wax From Lubricating Stocks

What are considered the best solvents for separating wax from stocks when making low pour test lubricating oils?—C. H. G.

The desirable properties for a solvent adapted to wax separation were discussed by J. W. Pool in The Oil and Gas Journal, September 26, 1929, page 99. He states: The solvent should selectively mix with either one or the other of the constituents of a wax-lubricating oil distillate without the use of an excessive volume of it. The solvent should possess a solubility high enough to dissolve both oil and wax completely at temperatures not excessively elevated. The solvent must be recoverable. It must establish such physical differences between the portions of the mixture that the two may be easily separated. Neither oil nor wax must be damaged. Cost must be low. The solvent should separate from water. A process making use of phenol as a selective solvent for improving lubricating oils was described by Stratford, Moor and Pokorny in The Oil and Gas Journal, March 30, 1933, page 8, and a similar process making use of dichloroethyl ether (chlorex) was detailed by Page, Buchler and Digga, in the issue of April 20, 1933, page 14. These are not primarily wax removers, but are selective solvents for obtaining improved lubricating oils.

Various solvents for wax separation are given in Chemical Refining of Petroleum, by Kalichevsky and Stagner, pages 235-253. These are grouped in three classes: (1) Those in which there is no appreciable increase in precipitate when the quantity of the diluent is increased; this includes toluene, amyl alcohol, etc. (2) Those in which the precipitate increases with increase of diluent; this group includes ethyl alcohol, acetone, phenol, cresol, carbon disulphide, ketones. (3) Those with which a precipitate formed with a given quantity of diluent but redissolves upon addition of an excess; these are acetic acid, butyric acid, naphthenic acids, aniline, pyridiue, quinoline, turpentine, and ethyl acetate.

Details are given in this book of dewaxing with methylene dischloride and the solubility of wax in naphtha, isopropyl ether, ethylene dichloride, butanol and acetone is compared. Reference is made to the use of the pure hydrocarbons for dewaxing. The use of Paraflow, the synthetic product made from the condensation of a high boiling monochloroparaffin with naphthalene by means of anhydrous aluminum chloride, for lowering pourpoint of lubricating oils is described.

See this reference for the details.

Stratification and Jelly-Like Deposits in Oil Tanks

Various conditions are responsible for the stratification and soft deposits in oil tanks. The following relating to caustic wash and naphthenic oils is of interest. —Editor.

"You have had several questions during the last few years regarding the reason for stratification of fuel oil in storage, the lower stratum being a jelly-like substance. In my opinion the most likely explanation is one that has not been published thus far. This is that in running Texas Coastal crudes, high in naphthenic and similar organic acids, for the production of overhead lubricating oil distillates, it is the common practice to 'run over caustic.'

"About one quart of 20° Be. caustic soda solution per barrel of oil is added to the charge before starting the distillation. This is done in both the crude and rerun still and results in a bottom which is only slightly oil soluble but fairly water soluble. This bottom, when hot-blended with gas oil or fuel oil makes an apparently homogeneous blend, but on standing a short time it settles out as a tarry jelly.—G. W. S."

The character of the heavy material which forms a layer in fuel oil and heavy oil tanks is related to the conditions of, and the chemical treatment used in, the refining process by which the products were obtained. When fats, vegetable oils, soaps, alcohols, and other organic chemicals are used there may be a heavy jelly-like liquid produced. The common cause of the jelly deposits is paraffin wax, but the coastal oils contain very little if any wax.

There is an objection to running oils over caustic. Caustic embrittlement of the steel will result and hot spots are liable to form due to overheating where the caustic collects.

Making Activative Charcoal With Urbain Process

If it is not asking too much, we would like you to give us some information concerning the preparation of gasoline absorbing carbon by what is known as the Urbain Process?—H. M. H.

The Urbain process based on French Patent 603,806, has been explained under the title "Production of Active Carbon," in the Petroleum Times, October 22, 1927, page 792. The description following is from this source.

In this process vegetable matter is extracted with a zinc chloride solution containing some free hydrochloric acid. The extracted residue is then dried and calcined; it is then washed with hydrochloric acid and heated up to about 800°. An alternative is to treat a mixture of vegetable substances with acid-calcium phosphate, then dry it, and bring it up to a red heat.

This is said to result in a very active carbon particularly suitable for decolorising liquids. Instead of the acid-calcium phosphate, tricalcium phosphate may be used in the presence of free phosphoric acid.

The production of decolorizing carbon from bones requires that the neutral calcium phosphate be converted into the acid phosphate by means of hydrochloric or other suitable acid.

Instead of vegetable or other carbonaceous material as the basis, Urbain proposed in English Patent No. 257,917 to reduce acid-calcium phosphate with carbon at a suitable temperature. In this way two products are obtained: Active carbon and phosphorus, in which the carbon is the by-product (see also French Patent No. 615,049). That the presence of an acid medium is necessary is shown by the Urbain American Patent No. 1,610,399, and English Patent No. 257,269.

The German Patent No. 407,406 covers a process for making active carbon from several different materials such as, for example, 100 parts of powdered peat mixed with 50 parts of sawdust. This mixture is saturated with phosphoric acid and pressed into cakes, then carbonized in a rotary furnace. There is a tendency to loss of phosphorus in the form of the vapor, and also as the hydride gas, which is met by the proposal in the German Patent No. 408,928 to use heating gases containing a little oxygen for the carbonizing in the rotary furnace and thus avoid a reducing action. The essential part of this, and some of the previous processes mentioned is the saturation of the material with phosphoric acid, but other substances such as bi-sulphate and sulphate of soda, ammonia sulphate, etc., may also be used. When a sodium salt is employed sodium sulphide is a by-product. In detail, the process is to saturate finely divided pinewood with sodium bi-sulphate, and to dry it. The material is then heated out of the air to about 600 to 1,000° C. The material is cooled, and the sodium sulphide is dissolved out with water. The solution is then evaporated to obtain the dry salt. Other materials, used as the source of carbon, mentioned in various patents include: Cocoa waste, cocoanut and walnut shells, brown coal, liquite and hard coals, including anthracite.

PERSONAL PARAGRAPHS

Frank R. Coates has been commissioned a colonel on the staff of Governor Ruby Laffoon of Kentucky.

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A. S. Bailey, vice president of the Texas Pipe Line Company, Houston, Tex., is in Wyoming on a vacation trip.

• • •

Bert E. Hull, president of the Texas Pipe Line Company, Houston, Tex., is visiting in New York and other points in the East.

• • •

B. S. SoRelle, division manager of the Pure Oil Company, Fort Worth, Tex., has been spending the past week in Chicago at the company's main offices.

• • •

Lee Brown, drilling superintendent for Loffland Brothers in the Big Lake Field, Reagan County, Texas, is spending a part of his vacation at the World's Fair.

• • •

Hugh King, of Tulsa, president and treasurer of the Cortez Oil Company, returned from Europe on the Italian liner Rex when it made a new transatlantic record from Gibraltar.

• • •

Olin Wellborn, III, C. M. Weatherwax, Lionel Barneson and Harry Hunt have been elected vice presidents of the Hogan Petroleum Company, of which Dana Hogan is president.

• • •

Walter T. Reid, vice president of Southern Union Gas Company, Dallas, Tex., has been named president of the Albuquerque Natural Gas Company, succeeding A. T. Woods, resigned.

• • •

A. M. Peairs, of the Ampco Engineering Company, Dallas, Tex., is spending two weeks in San Diego, Calif., doing consulting work. H. C. Vandaveer accompanied Mr. Peairs on the trip.

• • •

W. A. Schlueter, Refinery Supply Company, Tulsa, has gone to Chicago to attend a meeting of the supply dealers division of the Scientific Apparatus Manufacturers of America.

• • •

Lloyd C. Gibson, for several years chief of the Oil and Gas Division, Income Tax Unit of the Bureau of Internal Revenue, has resigned to take up practice as a lawyer and valuation engineer. He will be associated with William L. Denning and John M. Cross with offices in Washington, D. C.

• • •

L. A. Pym, chief petroleum engineer (physical research), Anglo-Persian Oil Company, Persia, is visiting oil fields in Oklahoma, New Mexico, Texas and California on a trip across the United States en route to his old home in Australia. Mr. Pym was in Oklahoma last week.

• • •

D. M. Hammett, manager of the Mid-Continent office for the Axelson Manufacturing Company, has successfully undergone an emergency appendicectomy and is now recuperating. His many friends wish him a rapid recovery and he will no doubt be back on the job in the Tulsa office within a short time.

• • •

Dr. Waldemar Lindgren, president of the International Geological Congress; M. Santillan, chief of the Geological Survey of Mexico; H. E. Ferguson, of the U. S. Geological Survey; Miss Jacquetine Thoreau, of Louvain, Belgium; Mrs. K. S. Fowler-Lunn, from the Gold Coast, British West Africa; and Dr. R. C. Becker of Johns Hopkins University, have been visiting the California fields.

• • •

W. K. Womack, production foreman, Shell Petroleum Corporation, Yates Pool district, resigned effective September 1. Succeeding Mr. Womack is J. O. Brown from the Hobbs, N. Mex., district. E. L. Kimrey, located in the Wink district, will be transferred to Hobbs, and C. F. Ciance from Kilgore is successor to Mr. Kimrey at Wink.

J. N. Phelan, independent operator, Ardmore, Okla., has moved to Houston, Tex., where he has opened offices in the Sterling Building.

• • •

C. M. Joiner, of Texas, was the principal speaker at a recovery code dinner held at the Biltmore Hotel in Los Angeles, Calif., last week.

• • •

M. E. Chapman, engineer, Gypsy Oil Company, Tulsa, has just returned from a two weeks' vacation spent in the mountains of Colorado.

• • •

W. S. Herron, president of Okalta Oils, Ltd., has returned to Calgary, Alberta, after a visit to the Eight Mile Lake area of British Columbia.

• • •

F. J. Kopp, representative for the Frick-Reid Supply Company, Fort Worth, Tex., has motored to the Missouri Ozarks to spend a vacation with his family.

• • •

Thomas O. Payne, drilling contractor, formerly associated with the firm of Payne & Bond, has opened offices in the Second National Bank Building, Houston, Tex.

Men of the Industry

R. C. STONER

R. C. Stoner, general manager of the producing department of the Standard Oil Company of California, was born in Bakersfield, Calif., August 21, 1889. He attended the public school in Bakersfield, Kern County, California, and after graduation from high school in 1908 entered the University of California at Berkeley, from which he was graduated in 1912 with degree of B.S.

Mr. Stoner entered the employ of the Standard Oil Company of California as a geologist in 1913 and remained in the geological department of the company until 1921. During this period he geologized numerous structures in California, particularly Montebello, where he mapped location of the Standard's discovery well.

In 1921 Mr. Stoner was sent to Mexico on exploration work for the company and he remained as manager of exploration in Mexico until 1924, when he returned to California. In 1925, he was appointed assistant general manager of the producing department and after serving in this capacity for six years was appointed general manager of the department.

Charles G. Hooks, independent oil operator, Houston, Tex., is in Chicago with his family visiting the World's Fair.

• • •

D. G. Barkley, Humble Oil & Refining Company, gasoline manufacturing division, was transferred from Iraan to Sugarland.

• • •

Lon D. Cartwright, formerly geologist with the Superior Oil Corporation, now is associated with the McElroy Oil Company, Houston, Tex.

• • •

J. W. Shields, purchasing agent, Pure Oil Company, Tulsa, with his family, has gone to Chicago to visit relatives and attend the exposition.

• • •

Fred C. Sealey, general manager of the production department, Gulf Coast division, the Texas Company, Houston, Tex., has been in New York.

• • •

Richard Lyons, vice president of the Skelly Oil Company, and head of the land and geological department, has been in Dallas, Tex., on company business.

• • •

W. H. Stueve, engineer, Oklahoma Gas & Electric Company, Oklahoma City, Okla., has returned to his office from a business and pleasure trip to Wisconsin and Chicago.

• • •

Dick Schwab, Houston, Tex., independent operator, and discoverer of the Livingston Field, Polk County, has returned to his home from a motor trip through Colorado.

• • •

David Heggie, former comptrolier and assistant treasurer of the Shell Oil Company of California, has succeeded John Lauder, who recently retired as vice president and treasurer.

• • •

Kenneth Duncan, of Casper, Wyo., petroleum engineer, has been appointed one of the custodians of Teapot Dome and has moved his family to the old Sinclair camp at Teapot.

• • •

Raymond F. Baker, New York, assistant to R. Ogarrio, vice president and general manager of the production department of the Texas Company, is spending several weeks at the Houston, Tex., office.

• • •

L. B. Holland, Phillips Petroleum Company, production department, has been transferred from the Oklahoma City Field to Breckenridge, Tex., to take charge of the Texas and Arkansas district, and left for his new home the latter part of last week.

• • •

W. H. Cooze, formerly division supervisor of sales for the Texas Pacific Coal & Oil Company, Fort Worth, Tex., has been transferred to Great Falls, Mont., and made division manager of sales for the Comet Oil Company.

• • •

J. J. Frommer, district superintendent, Mid-Kansas Oil & Gas Company, Oklahoma City, Okla., has returned from a vacation spent at his old home in North Baltimore, Ohio, and a visit to the World's Fair, Chicago.

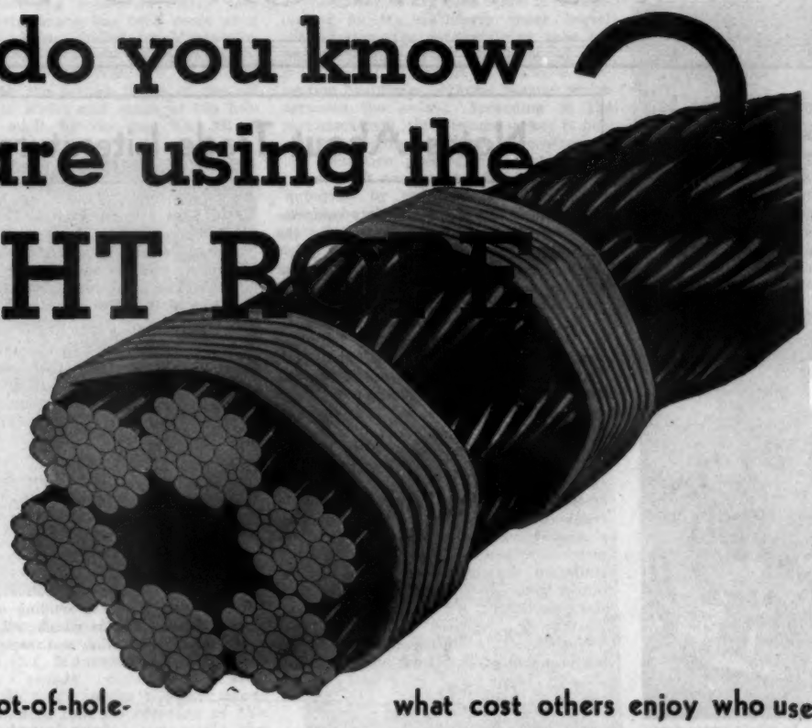
• • •

Paul Mahaffey, Happy Belting Company, who has been a hospital patient for some time following a surgical operation on his right leg, is making slow but satisfactory progress. Complications involved reopening of the incision and introduction of larvae to absorb the affected area.

• • •

Miss Frances Charlton has been made chief paleontologist, Gulf Coast division, Pure Oil Company, Houston, Tex., to succeed John S. Cruse, who resigned to accept a similar position with the Amerada Petroleum Corporation. Miss Charlton formerly was associated with the Pure Oil Company in Arkansas and also in Venezuela but for the past two years has been studying at the University of California.

How do you know you are using the RIGHT R[illegible]



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NEW AND IMPROVED EQUIPMENT

Keystone Cleanout Rig Is Moved Easily About Lease

A fireproof all-steel gasoline-engine-driven spudder, mounted on crawlers, has been brought out by the Keystone Driller Co., Beaver Falls, Pa. The rig is complete and self-contained, and is especially adapted for cleaning out and abandoning wells. Its most striking characteristic is mobility, the full-crawler mounting enabling it to go anywhere, at any time, where a caterpillar tractor will go. For long-distance travel the derrick can be quickly lowered to a horizontal position.

Moves from location to location with mast raised, instantly ready for operation

When traveling from well to well in the same field it is not necessary to lower the derrick, the machine having extraordinary stability by virtue of a very low center of gravity. The total weight of machine with derrick is only about 14,000 pounds of which over one-half is concentrated in the crawler assembly.

All fast revolving shafts are mounted on a ball and roller bearings. The crown pulley is mounted on a roller bearing in a sliding frame resting on dual spring shock absorbers, an arrangement which has proved successful in drilling with wire line without a cracker.

Mast lowered for long-distance travel

The compactness of the machine is due partly to all-steel construction and partly to the employment of chain drives, making possible short shafts and efficient placement of the operating parts, including bullwheel and sand reel.

This machine, known as No. 71, is designed for wells up to 1,000 feet deep. No. 90, another new Keystone spudder of similar design, will drill to a depth of 3,000 feet. The latter is equipped with calf reel.

Notes About Trade Literature

The new class ES heavy-duty compressor recently put on the market by the Ingersoll-Rand Co., 11 Broadway, New York, is described and illustrated in a 24-page bulletin obtainable from the company.

—

The American Radiator & Standard Sanitary Corp., 40 West Fortieth Street, New York, has prepared an interesting bulletin enumerating the Arco Wand boiler-furnace cleaner.

—

Bulletin No. 111 (733), issued for distribution by the Oil Well Supply Co., Oil City, Pa., describes the Imperial No. 80-SC oilbath geared power with single crank (dual-stroke). The bulletin includes a general description of the power, three pictures, a sectional drawing and an installation drawing. Copies may be obtained from any "Oilwell" representative, store, or office.

—

New literature illustrating and describing products of the Grant Oil Tool Co., 2022 East Vernon Avenue, Los Angeles, Calif., consists of a 16-page catalog covering underreamers, straightreamers, wall-scrapers, straight-hole guides, and liner pullers; also a catalog featuring the Grant bailer and the Grant perforation.

—

"Vertical Motors" is the subject of a new looseleaf bulletin sheet issued by the Wagner Electric Corp., 6389 Plymouth Avenue, St. Louis, Mo. It illustrates and describes the three different types of vertical motors.

—

The design, construction details and complete specifications of the "Caterpillar" Seventy tractor are given in a catalog recently published by the Caterpillar Tractor Co., of Peoria, Ill.

—

Sludge Pumping, Inc., Pier 18, North River, New York, is sending on request a four-page bulletin which tells about a method of removing and reclaiming oil sludge.

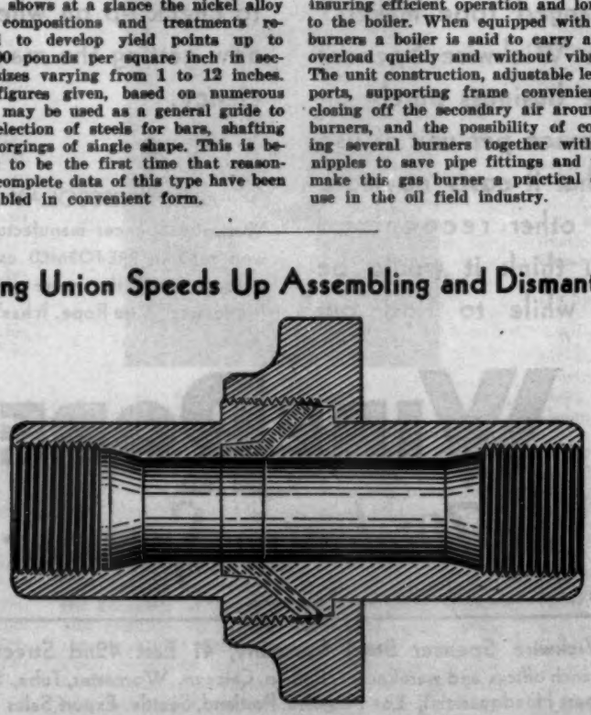
INTERNATIONAL NICKEL CHART

The International Nickel Co., 67 Wall Street, New York, is sending on request to metallurgists, engineers, steel salesmen, purchasing agents and executives of the machinery and allied industries a helpful chart. This chart, circular in shape, shows at a glance the nickel alloy steel compositions and treatments required to develop yield points up to 175,000 pounds per square inch in section sizes varying from 1 to 12 inches. The figures given, based on numerous tests, may be used as a general guide to the selection of steels for bars, shafting and forgings of single shape. This is believed to be the first time that reasonably complete data of this type have been assembled in convenient form.

BECK MELLOBLU GAS BURNER

The design of the Beck Melloblu gas burner announced by the Beck Engineering Combustion Kompany, 2232 Pine Street, St. Louis, Mo., is such that the short nonoxidising mellow blue flames are well distributed over the grate area, insuring efficient operation and long life to the boiler. When equipped with these burners a boiler is said to carry a large overload quietly and without vibration. The unit construction, adjustable leg supports, supporting frame convenient for closing off the secondary air around the burners, and the possibility of connecting several burners together with pipe nipples to save pipe fittings and valves, make this gas burner a practical one to use in the oil field industry.

Wing Union Speeds Up Assembling and Dismantling



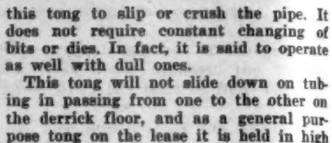
The Oil Equipment Sales Corp., 1812 Semmes Street, Houston, Tex., announces a new design in wing unions, a product described as speeding up assembling and dismantling in general field use.

Subs of this new union are sufficiently long to apply tongs for breaking down, while the wing nut is tightened by use of a hammer, eliminating use of wrenches.

This new type union was designed by C. K. Stillwagon and is adaptable to all high pressures. It is made in sizes from 1¼ to 4 inches, inclusive.

Tubing Tongs Designed to Make Slipping Impossible

The "Safety First" tubing tong, manufactured by the Oil Field Specialties Co., 1002 Old National City Building, Lima, Ohio, is designed to assure maximum efficiency, simplicity of manipulation and long life. A three-point contact bull-dog grip is said to make it impossible for this tong to slip or crush the pipe. It does not require constant changing of bits or dies. In fact, it is said to operate as well with dull ones.



This tong will not slide down on tubing in passing from one to the other on the derrick floor, and as a general purpose tong on the lease it is held in high regard. It is made to meet the need of oil producers for a tool that insures the safety of field men, as it protects against injury by falls. It is built on principles so simple and positive that it is declared to be an impossibility to make it slip and that is why it was named "Safety First." These tongs can be furnished in all sizes.

W-K-M Pipe Cleaning Unit Operated by Two Workmen

The W-K-M Co., Inc., of Houston, Tex., has introduced a small cleaning machine manually powered and using the same type of cutters employed in the motor units. The new machine is designed to be used in or around obstructions and reconditioning hot spots.

The hand cleaning unit provides the same type of cleaning obtained by the motor units, and has a maximum traveling speed of 5 feet per minute, obtained automatically by oscillation of the cutter arms. The unit is built for 12-inch pipe, and to arrange the unit for smaller pipe it is necessary only to remove sufficient plates to obtain the desired size. Thus all sizes from 12 inches to 4 inches are available in one unit without additional parts.

The device is light in construction, and can be put on or taken off the pipe easily by two men.

Caterpillar Diesel 35 Is New Tractor in Name Only

Although the Diesel Thirty-five tractor, announced by Caterpillar Tractor Co. of Peoria, Ill., contains interesting features, it is really new in name only, since it brings the advantages of "Caterpillar" Diesel engines to a long-established tractor chassis. Even the engine used in the Diesel Thirty-five is not new, as it differs only in horsepower and number of cylinders from the engines used in the "Caterpillar" Diesel Seventy-five and Diesel Fifty tractors which have been in the field for many months. The engine in the Diesel Thirty-five has the same bore and stroke, bearings, cylinder liners, connecting rods, pistons, wrist pins, front end drive, governor, fuel injection pumps, valves and valve mechanism that are used on the two larger "Caterpillar" Diesel engines.

This standardization of design, long the goal of the automotive industry, insures improved parts service to the owner, simplifies repairs and adjustments and effects marked manufacturing economies. But more than this, it guarantees standard performance and uniform results. The "Caterpillar" Diesel Seventy-five

tractor engine has six cylinders, the Diesel Fifty has four and the Diesel Thirty-five has three cylinders, all manufactured on the same machines, employing the same parts and giving the same performance. The three-cylinder Diesel engine used in this tractor is also available as a self-contained power unit, and full information concerning either the tractor or the power unit may be obtained from the manufacturer.

Hydropress Pumping Unit Is Driven by Gas Engine

The Byron Jackson Co., Berkeley, Calif., has developed a complete gas engine-driven hydropress pumping unit primarily for contractors' service, although the machine is applicable for any high pressure duty in which portability is desired or where electric current is not available.

Field experience with positive displacement pumps has shown interruptions, due to excessive wear and tear in the numerous reciprocating parts and sliding contacts. To overcome these troubles, Byron Jackson designed a pumping unit consisting of a 10-stage hydropress mounted in a vertical position on a gear box. The gear box houses a set of step-up gears having a ratio of 4.11. The gear box in turn is bolted to the S.A.E. fit on the crankcase housing of a Ford Model A automobile engine. There is a short stub shaft attached to the Ford engine crankshaft, extended through substantial ball bearings, having mounted thereon a Ford differential rear axle ring gear, which in turn drives a Ford differential rear axle pinion gear, the latter mounted on a ball bearing hollow shaft, coupled to the pump shaft.

An oil pump is provided in the gear box to deliver a jet of oil directly to the gear mesh and to circulate oil freely through all the ball bearings.

The engine cooling system consists of the conventional Ford truck radiator, hooked up to the circulating system.

A Monarch type of engine governor is installed between the engine carburetor and the intake manifold, and the governor is set, for ordinary operation, to limit the engine speed to 1,350 r.p.m. Actual test is said to have proven that this governor will control the pump pressure to within a 50-pound range, and that even when all discharge outlets are shut off simultaneously there is no appreciable shock in the piping system, this eliminating the necessity of a spring-loaded mechanical relief valve.

Gravities of Oils Shown at Glance by Thermotron

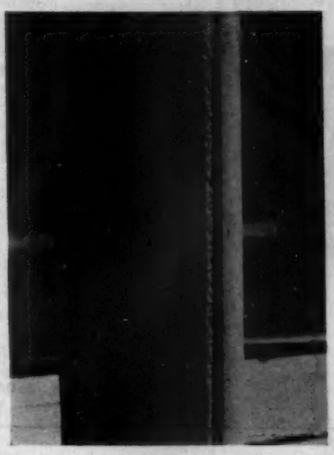
Stromberg-Motoscope Corp., Chicago, announces the new Stromberg A.P.I. thermotron, which shows the gravities of oils at a glance. It consists of a specially designed hydrometer, and a thermometer upon which are both Fahrenheit and A.P.I. readings. A corrected reading is taken from one and added to or subtracted from the other. The result is degrees A.P.I. within one-tenth degree A.P.I.

The manufacturer's literature points out that with the thermotron 10 figures take the place of 4,500, and that a comparison of the readings taken from their 10 figures replace the book of correction figures now being used. It is still further claimed by the manufacturers of this instrument that so far as actual results without interpolations are concerned their 10 correction figures actually replace something like 288,000 figures.

L. L. Dresser has disposed of his interest in Dresser & Gorton and the Machine Tool & Supply Co., both of Tulsa, and is reviving the Dresser Engineering Co., which for many years was engaged in steel building erection and general oil field contracting. He will continue to represent the Stefco Steel Co. of Michigan City, Ind. Mr. Dresser is specializing in the design and erection of porcelain filling stations. Headquarters of the company are in the Hunt Building, Tulsa.

Interesting Rotary Core-Barrel Record Is Made in Montebello Deep Test

An interesting record of rotary core barrel performance has been made at a well now being drilled at Montebello, Calif., by the Universal Consolidated Oil Co. This well, Universal C-1, is a deep test within the proven limits of the old Montebello Field, and much of the hole is being made by the core bit. All of



The longitudinal groove in this 17½-inch core taken from the Universal C-1, Montebello, Calif., with Baker rotary core-barrel, was made by teeth in the trimmer shoe. It indicates that no rotation of the inner barrel took place while the core was being cut

the cores from 1,341 feet down to the present depth of 6,243 feet have been labeled and carefully preserved in a specially built rack at the well. Following is a summary of the coring, taken from the well log:

Depth from to (ft.)	Size bbl. (in.)	No. runs	Feet cored	Feet recovered	Percentage recovered
1,341-1,648	17¼	12	307	249	81.0
2,026-2,044	17¼	14	18	18	81.0
3,061-6,243	12¼	102	1,553	1,436	92.5

The samples varied from hard quartzitic shale to coarse sands and loose conglomerate, with numerous formation changes. Virtually all of the cores recovered were excellent formation samples, unbroken and uncontaminated by the drilling mud.

It is interesting to compare the drilling time on this rotary drilled well with that made on the old wells which were drilled in this same field by cable tools. Although by no means a record-breaker, Universal C-1 has required less than four months to penetrate more than 6,000 feet of hard formation, much of it with the core bit, whereas it required from 18 months to two years to reach 5,000 feet at Montebello with cable tools.

The Baker rotary core barrel is characterized by its stationary inner barrel construction, the core-retaining tube being suspended from the head of the outer barrel by means of a swivel connection containing a thrust bearing which actuates the swivel. According to the manufacturers, this feature makes it possible to recover a high percentage of the formation penetrated, and to secure cores which are untwisted, unbroken, and unburned by the frictional heat which might be developed by rotation at the core cutting edge.

In the accompanying picture of one of the 17¼-inch cores taken from Universal C-1 may be seen a groove cut from one end of the core to the other. This groove was made by teeth placed on the inside of the core trimmer shoe, the purpose being to prove definitely that the inner barrel does remain absolutely stationary, and that the core barrel could be used successfully for orientation and to obtain the formation dip. In every case where these special trimmer shoes were used the cores came out with the groove running in a straight line from top to bottom, evidence that the inner barrel stood still and went down straight without any tortional strain or twisting of the core.

Part of the rack containing core samples taken with Baker rotary core-barrel from the Universal C-1, Montebello, Calif.

Baker Oil Tools, Inc., who manufacture core barrels for both rotary and cable tool service, maintain headquarters in Huntington Park, Calif., with branches in Coalinga, Taft, Bakersfield and Santa Barbara, Calif.; Houston, Tex., and Tulsa, where all of the Baker oil well specialties are stocked. Export offices are in New York.

JONES OFFICE IN EAST TEXAS

The S. M. Jones Co., Toledo, Ohio, has opened an office at 214 Laird Building, Kilgore, Tex. Both L. J. Pundt, Gulf Coast factory representative, and J. G. Litherland, Louisiana and Arkansas factory representative, are devoting their attention to East Texas and may be reached at the Kilgore office. The S. M. Jones Co. through its wide supply company representation and stocks carried by the various supply companies is in position to take care of the demand for Jones sucker rods, pull rods and polished rods in this area. Stocks are carried by the Atlas Supply Co., Bridgeport Machine Co., Houston Oil Field Materials Co., International Supply Co., Jarecki Manufacturing Co., Republic Supply Co., Norvell Wilder Supply Co., Pelican Well Tool & Supply Co., and Producers Supply & Tool Co. There are 15 stocks of Jones rods available to producers in East Texas, located in various parts of the field for quick service.

B & W COMBINATION BURNERS

The Babcock & Wilcox Co., 85 Liberty Street, New York, has announced an oil-and-gas burner in which are combined the features of the B & W mechanical atomizing oil burner with an efficient method of burning gas. The gas, broken up into small streams, is discharged at right angles into a venturi throat through which the air for combustion passes, insuring complete mixing and rapid combustion. The burner is made in heat-liberation capacities up to 70,000,000 B.t.u. per hour per burner using natural gas.

Men Well Known in the Equipment Field

WILLIAM CRAIG WOLFE

William Craig Wolfe, recently made vice president in charge of sales by the Reading Iron Co., Philadelphia, Pa., has had wide experience in the marketing and merchandising of iron products. During 1907-8 he was with the Commercial Steel & Iron Co., Chicago, a brokerage company representing several mills. In 1908, he joined the Seneca Iron & Steel Co., Buffalo, N. Y., as a salesman, remaining with that company until 1919. He then was appointed assistant to the president of the Standard Steel Tube Co., Toledo, Ohio, and two years later became manager of sales for the Highland Iron & Steel Co. In 1928 he was made general manager, serving in that capacity until his recent connection with Reading.

Mr. Wolfe was active in the organization of the Wrought Iron Manufacturers Association.

Improved Drilling Fluid Controls Well Pressures

Colox (colloidal oxide), manufactured by George S. Mepham & Co., 2001 Lynch Avenue, East St. Louis, Ill., is presented by the company as of high value in weighting and blending rotary drilling muds. It is said to have been of marked help in controlling various underground conditions.

Colox muds have greater buoyancy combined with higher fluidity. Twist-offs are lessened because drill strings are relieved of as much as 20 per cent of their total weight. Longer strings thus deliver maximum power to the bit at the bottom.

Other advantages of Colox include: Reduction of power requirements by lubrication of the hole; artesian waters excluded; abrasive wear on drill pipe, casing, tools and pump reduced; load on derrick and hoist minimized; extra support given to the walls by formation of a strong, thin, impervious filter cake; mud dilution and loss prevented; heaving formations strengthened and kept out of bore; quick removal of cuttings from bit, thus preventing balling and always keeping cutting surfaces free from loose material; brakes relieved of much wear; wets and pulps with water easier and more quickly.

The principal ingredient of Colox is amorphous iron oxide.

FIELD PROBLEMS FROM READERS

Edited by Thomas F. Smiley

This department is conducted in order that men connected with the drilling, producing or transporting branches of the petroleum industry may obtain aid in solving problems that confront them in their work. Readers are invited to send questions freely. These questions will be placed in the hands of persons capable of answering them authoritatively, and the answers, based on the best available information, will be published.

Each question should give as much detail as possible, especially if it involves depth of sands, types of sands and operations on adjoining or nearby properties. The source of questions will be considered confidential, and only the initials of the sender will be published. Questions involving patented processes, intricate formulas or estimates of cost cannot be answered. If an immediate answer is important, one will be given by mail when the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or improved old ones.

Construction of Steel Island for Drilling Well in the Ocean

I read recently about an oil well drilled in the Pacific Ocean off the California coast some 2,500 feet from shore. A well that far out must have presented some difficult engineering problems. The thing I read said that an island of steel was built first to provide something stable for drilling operations and for producing operations later. Are you able to tell me how this so-called island was built, just where it is and who owns the well?—L. N. T.

The well to which you refer is owned by the Indian Petroleum Co. and it is on the Shudde permit in the western end of the Rincon anticline, Venturi County, California. The steel island consists of a foundation composed of structural members formed into piers and a central structural member to provide a five-point pier of great strength and rigidity. The island is 2,700 feet from shore.

In the construction of the individual piers a large number of vertical H beams were driven into the shale of the ocean bed 40 feet beneath the surface of the water. These beams were sunk to the point at which resistance exceeded the driving force. Then they were cross-connected by structural members to form four compound columns which act as piers. These piers are interconnected by other structural members which act as tie rods.

A circle of vertical H columns tied together and cross-braced to the corner piers, forms a central ring, one of whose functions is to act as a vertical compound column. A tank is suspended and carried by this central ring. The tank has a double function, as it acts as a sump to collect drilling fluid and oil and also as the cellar of the well. A caisson, in which a conductor pipe is cemented both above and below water, passes centrally through this tank. The drill pipe passes through this conductor pipe.

The footings for the derrick and the derrick floor are positioned on top of the corner piers. Beneath the floor and registering with the central tank there is a scupper pan or subfloor. This drain pan has the additional function of acting as a guard for the floor in cases where the seas run high. The great strength of this pan prevents running seas from uplifting the floor by breaking the force of the waves.

The rotary table is supported on certain of the H beams of the central ring. The construction above water level is welded and below water line clamped and bolted.

The initial work on the steel island consisted of constructing four towers of structural steel. The corner legs were 60 feet long, the steel weighed 30 pounds to the foot and the legs were spaced 20 feet apart. The resulting structure became 20 feet square. These towers were placed on the deck of the derrick barge, towed to sea and landed at the edge of the wharf to be built. Placing four of these side by side made an area almost 45 feet square. Upon this skeleton falsework were landed caps and in turn the skids of a pile driver, the ladder braces, gins and a hoisting engine.

There was sufficient room on the platform for a water tank, fuel drums, a compressor and the necessary small tools. The tanks were filled from the storage tanks on the derrick barge. The first essential in open roadstead work is to lay moorings, for when a barge is towed to sea and work is expected of it, a method must be had to tie the thing up so that it will not be drifting with every whim of the tide and current.

During construction of the Indian Petroleum's steel island, the General Petroleum Co.'s pier, extending 1,700 feet out from shore, was used as a base of supplies. The piling, lumber and all the oil well equipment and appurtenances were hauled to it and transported from there to the well site in their proper sequence. Driving the piling for the surrounding wharf to the rig foundation had no unusual features, other than the hazards of loading and unloading 66-foot piling, weighing almost two tons each, in a pitching, surging sea. The Oil and Gas Journal of December 1, 1932, published a complete account of this project.

Boyle's Law Not Always Strictly Applicable in Gas Problems

I want to ask you whether Boyle's law, which says that at constant temperature the product of the pressure and the volume of a given mass of gas is constant, may be viewed as applicable under all circumstances. In natural gas operations, estimating natural gas reserves, transporting natural gas, etc., is this law so nearly absolute that it may always be used in calculations? An article which I read recently contained an allusion that seemed to indicate that Boyle's law cannot be used in all natural gas calculations.—R. U. K.

The relationship as expressed by Boyle's law, that at constant temperature the volume occupied by a gas is inversely proportional to the absolute pressure, is not strictly applicable to natural gas, according to the Bureau of Mines in a report published about a year ago. The degree of deviation from the law depends upon the temperature, pressure and chemical composition of the natural gas.

There are many problems in the natural gas industry connected with gas measurement and the estimation of natural gas reserves which deal with the relationship between pressure and volume. The long-distance transmission of large volumes of natural gas has become an important part of the natural gas industry; and the attendant transmission problems dealing with the flow of the gas through pipe lines, gas measurement, gas compression, and production problems, with particular reference to the estimation of gas reserves, have become of increased importance. Because of the higher pressures that are used throughout the industry from the producing to the distributing facilities, consideration of deviation from Boyle's law is a significant factor in dealing with these problems. Many engineers when solving such problems assume that natural gas conforms with Boyle's law.

The Bureau of Mines investigation was confined to natural gas under pressures up to 1,000 pounds per square inch and at temperatures ranging from 40° to 80° F. Within these ranges of pressure and temperature, natural gas with an increase in pressure is more compressible; and, conversely, with a decrease in pressure is more expansible than the ideal gas. The report contains a detailed description of apparatus used and the laboratory procedure, with an analysis of results and a discussion of the application of this deviation to gas engineering problems such as measurement of natural gas and estimation of gas reserves.

Copies of this Bureau of Mines Technical Paper 539, "Deviation of Natural Gas from Boyle's Law," may be procured from the Superintendent of Documents, Government Printing Office, Washington, D. C., at 5 cents a copy. You should find the publication of interest.

Problems of Drilling Ged Field Shale Remains to Be Solved

I desire some information in regard to the Ged oil fields in Louisiana. I would appreciate a report as to the possibility of production from wells that may be drilled within 100 feet of the now producing wells and as I understand it would be directly between the wells that have produced 1,000 bbls. a day and due to sand conditions, screens have choked. Whatever other information you may have will be appreciated.—N. C.

It is entirely possible to obtain production from wells drilled within a short distance of and between former producing wells which have gone dead because of choked, or sanded screen. Around certain portions of the Ged Field, however, there is encountered a heaving shale formation, in which, of course, there never have been any successful completions.

It might be stated that the conditions at Ged (or Vinton as the field is more generally known) are not materially different from those of other fields so far as sanding up of wells or the heaving shale, is concerned. The sanding or choking is an individual well, or mechanical proposition and has nothing to do with the possibilities of production in adjoining wells. The type, size and mesh of screen play a vital part in the prevention of sanding of wells. As for the heaving shale, this formation is encountered around many of the coastal fields, although not so shallow as at Vinton, and to date no operator has entirely solved the problem of drilling this shale, not to mention the difficulty of completing wells in it.

Obtaining production in wells within a short distance of former producers also is made possible by the fact that in nearly every coastal field there are numerous sands and sand lenses and even if a well fails in one sand it can be drilled deeper to another, and so on to the limits of the capacity of the drilling equipment. The lenticular condition of sands is such that it is a common occurrence for even offset wells to log entirely different formations and produce from different horizons, the two wells having no sands in common, even though sands in these wells may be at the same depth. There also are instances where sands apparently have been drained or exhausted but on being redrilled later produce again in commercial volume.

When the original wells were completed in this field they had about the initial capacity you have given but this rate of flow declined rapidly. In 1932, 14 wells were reported as completions in this field with an initial production of 7,675 bbls. This is at the rate of about 550 bbls. per well initial production. The old wells make less than this and are pumped.

Wells drilled into the zone to the southeast of the producing portion of the area are reported to have had a good showing of oil, but within 48 hours have been plugged by "heaving" shale and ceased to produce. It probably is this condition to which you refer and it is said to be peculiar to this field.

Why Was It Called That?

MORTAR

Mortar, the familiar building material, derives its name from the Latin "mortarium." One of the curiosities pointed out to tourists in Foggia, Italy, is a house built with wine-mixed mortar nearly 100 years ago. It was built by a wine merchant to cut off the view of his enemy, an influential business man. Knowing his enemy would stop him through the city authorities, the wine merchant secretly hired 12 men to build the house in one night. He had enough rock, cement and sand on the place, but lacked water. Knowing he could not get water from any well in the neighborhood without being discovered, he had his workmen use wine. The fumes made several of the men drunk, but when morning came the building was finished and it is there today.

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